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Letter of Transmittal

Attention: Ms. Karen Kirchner (USEPA) Date: June 13, 2017
Mr. Brian Conrath (IEPA)

UTC Aerospace Systems
Plants 1/2 Facility
Area 9/10 Remedial Action
Southeast Rockford
Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, Illinois 61104

Project reference: ILD981000417 Project number: 60532451

We are sending you the following:

Number of originals:	Number of copies:	Description:
<u>1</u>	<u>1</u>	First Quarter 2017 GMZ Monitoring and System Performance Report

Enclosed please find the First Quarter 2017 GMZ Monitoring and System Performance Report for UTC Aerospace Systems Plants 1/2 Facility, Area 9/10 Remedial Action, Southeast Rockford Groundwater Contamination Superfund Site, Rockford, Illinois.

Thank You.

Peter Hollatz, P.E.

cc: Mr. Scott Moyer, United Technologies Corporation (cd only)
 Ms. Diane Bellantoni, UTC Aerospace Systems (cd only)
 Mr. Jon Alberg, AECOM
 Project File



Prepared for:
UTC Aerospace Systems
Rockford, IL

Prepared by:
AECOM
Warrenville, IL
60532451
June 13, 2017

First Quarter 2017 GMZ Monitoring and System Performance Report

UTC Aerospace Systems Plants 1/2 Facility
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June 13, 2017

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National Priorities List Unit
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Subject: First Quarter 2017 GMZ Monitoring and System Performance Report
UTC Aerospace Systems Plants 1/2 Facility
Area 9/10 Remedial Action
Southeast Rockford Groundwater Contamination Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417
AECOM Project No. 60532451

Dear Ms. Kirchner and Mr. Conrath:

This Quarterly Groundwater Management Zone (GMZ) Monitoring and System Performance Report has been prepared by AECOM Technical Services Inc. (AECOM) on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand Corporation or HSC). In accordance with the approved March 2007 Operation, Maintenance, and Monitoring Plan (OM&M Plan) and the United States Environmental Protection Agency (EPA) letter dated April 15, 2011 providing approval for combining project reporting documents, this report contains a summary of the following: 1) GMZ groundwater monitoring data; 2) the Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system performance data; 3) the Phase 1 and Phase 2 AS/SVE system process air analytical data; 4) GMZ wells that contain contaminants of concern (COCs) above Preliminary Remediation Goals (PRGs); and 5) Quarterly Progress Report for Second Quarter 2017.

As approved in the April 15, 2011 letter from Timothy Drexler, interpretation of collected groundwater quality and system performance data will be included in the Annual GMZ Monitoring and System Performance Report submitted in March of the subsequent year. This quarterly report provides the current environmental data including: tables and figures summarizing the results of first quarter 2017 GMZ monitoring and AS/SVE system performance data, supporting field data sheets and laboratory analytical reports, and the Quarterly Progress Report covering the period from March 1, 2017, to May 31, 2017.

The objective of AS/SVE system operation is to treat leachate-impacted groundwater at the HSC Plants 1/2 (Site) property. The implemented remedy was specifically targeted to address an area of the Site where COCs were originally present in leachate/groundwater at concentrations that were two or more orders of magnitude greater than their PRGs. Though the treatment area was not fully defined when the 2002 Record of Decision (ROD) for Operable Unit 3 (OU3) was issued, the entire Site was identified/defined in the ROD as a “source location” within the larger established “Source Area 9/10” (Area 9/10) based on data collected prior to the ROD¹. The ROD further required that the Site remedy include the establishment of a GMZ for this “source location” (the Site) whose volume was defined by the Site property boundaries and a vertical limit of 45 feet below ground surface. Two Site GMZs, GMZ 1 (Site property north of railroad tracks) and GMZ 2 (Site property south of railroad tracks), were approved by the Illinois EPA in 2008. Monitoring wells within the Site GMZs are routinely sampled, and the groundwater analytical results are compared to OU3 PRGs to evaluate the effectiveness of the remedy.

During the first quarter 2017 reporting period, the following five GMZ well locations along the Site boundary contained COCs at concentrations above PRGs:

GMZ Monitoring Well ID	COC ^[1] Concentrations > PRG (Increase (+) or Decrease (-) from Previous Quarter)
GMZ01	PCE (+)
SMW04	PCE (-), Vinyl chloride (+)
SMW08	PCE (-)
SMW19	TCE (-)
PMW01	PCE (+)
PMW02	PCE (-), Vinyl chloride (+)

^[1] Trichloroethene (TCE), Tetrachloroethene (PCE)

The above-noted decreases/increases in concentrations represent a relative change in COC concentrations (above the PRG) between the two most recent quarters of data. Such changes should not be viewed as an indication of a trend without further statistical evaluation.

While PRGs are used to assess on-going remedy effectiveness at the Site, the continued operation of the AS/SVE remedy will be dependent on the attainment of Alternate Cleanup Levels (ACLs) at the downgradient Site GMZ boundary. COC ACLs have not yet been established/approved for the Site, but the ACLs will represent the maximum allowable concentration at the Site boundary that will not result in a COC exceedance of a PRG at the Area 9/10 boundary downgradient of the Site.

¹ See EPA Superfund Record of Decision Southeast Rockford Ground Water Contamination, 2002. EPA/ROD/R05-02/077 2002.

Achieving ACLs at the downgradient Site boundary will demonstrate that the Site is protective of human or environmental receptors at the downgradient Area 9/10 boundary, and that continued active remediation is no longer warranted. The downgradient Area 9/10 boundary is located at Harrison Avenue to the south and 6th Street to the west.

The formulation of ACLs is consistent with the attainment of the OU3 ROD Remedial Action Objective (RAO) for groundwater specified in the ROD² and the objectives analysis/Remedial Action Process Flow Diagram (RAPFD) developed and approved for use by the EPA and Illinois EPA at the Site. The RAPFD and the conditions for the performance of an objectives analysis and use of ACLs at the Site are provided in the Statement of Work attached to the HSC facility Consent Decree³ and included in subsequent approved Remedial Action Work Plan.

Please contact either of the undersigned with any questions you may have on the information provided.

Prepared by:



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Ms. Diane Bellantoni – United Technologies Corporation
Project File

² The OU3 ROD RAO for groundwater media is to: "Prevent the further migration of contamination from the source area that would result in degradation of site-wide groundwater or surface water to levels in excess of state or federal standards, or that pose a threat to human health or the environment."

³ See the Statement of Work in Appendix C of the Consent Decree between Hamilton Sundstrand Corporation and the United States Environmental Protection Agency (Civil Action Number 08 C 50129), Section II.D.2, *Implementation of Remedial Action and Attainment of Performance Standards* (pages 9 and 10).

Attachments:**Tables**

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Appendices

Appendix A	First Quarter 2017 GMZ and Performance Monitoring Well Analytical Data
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Appendix E	Second Quarter 2017 Progress Report

Tables

Table 1
Second Quarter 2016 to First Quarter 2017 Groundwater Elevations
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Well ID	Top of Casing Elevation (ft)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)						
MW07FGA	727.49	27.53	699.96	27.54	699.95	28.01	699.48	28.11	699.38
MW203	728.58	28.20	700.38	28.31	700.27	28.77	699.81	28.92	699.66
SMW01	729.71	30.25	699.46	30.40	699.31	30.81	698.90	30.86	698.85
SMW02	726.77	26.72	700.05	26.87	699.90	27.30	699.47	27.41	699.36
SMW04	728.51	29.46	699.05	29.60	698.91	29.98	698.53	30.05	698.46
SMW08	728.81	29.65	699.16	29.76	699.05	30.20	698.61	30.28	698.53
SMW19	728.49	28.40	700.09	28.53	699.96	28.96	699.53	29.07	699.42
SMW20	727.69	28.60	699.09	28.73	698.96	29.12	698.57	29.18	698.51
SMW21	727.25	28.08	699.17	28.19	699.06	28.56	698.69	28.68	698.57
GMZ01	731.41	32.23	699.18	32.36	699.05	32.71	698.70	32.82	698.59
GMZ02	728.76	29.80	698.96	29.89	698.87	30.28	698.48	30.39	698.37
GMZ03	728.22	29.19	699.03	29.31	698.91	29.69	698.53	29.78	698.44
GMZ04	726.84	27.47	699.37	27.59	699.25	28.00	698.84	28.07	698.77
BGW01	728.19	28.28	699.91	28.41	699.78	28.85	699.34	28.91	699.28
BGW02	728.81	28.75	700.06	28.77	700.04	29.28	699.53	29.38	699.43
BGW03	728.96	28.79	700.17	28.92	700.04	29.35	699.61	29.44	699.52
RAMW01	728.91	29.81	699.10	29.93	698.98	30.35	698.56	30.39	698.52
RAMW02	728.90	29.67	699.23	29.80	699.10	30.22	698.68	30.27	698.63
RAMW03	728.71	29.49	699.22	29.61	699.10	30.02	698.69	30.08	698.63
RAMW04	728.80	29.33	699.47	29.45	699.35	29.86	698.94	29.93	698.87
RAMW05	727.65	28.21	699.44	28.34	699.31	28.76	698.89	28.82	698.83
RAMW06	727.64	28.24	699.40	28.37	699.27	28.79	698.85	28.85	698.79
RAMW07	732.20	32.70	699.50	32.86	699.34	33.28	698.92	33.34	698.86
RAMW08	728.45	28.84	699.61	28.97	699.48	29.40	699.05	29.48	698.97
PMW01	728.88	29.91	698.97	30.04	698.84	30.43	698.45	30.49	698.39
PMW02	728.88	29.88	699.00	30.02	698.86	30.42	698.46	30.47	698.41
Ave. GW Elev. (ft AMSL)			699.46		699.34		698.93		698.85

Notes:

NM = Not monitored

ft = feet

ft BTOC = feet below top of casing

ft AMSL = feet above mean sea level

All site well top of casing elevations re-surveyed on May 24, 2011.

RAMW04 riser was lowered due to ice damage that occurred during the 2013 winter. Well was resurveyed on July 1, 2013.

Table 2
Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - GMZ Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) ^A				0.005 ^a	0.005 ^a	0.007 ^{b,c}	0.7 ^a	0.005 ^c	0.07 ^c	0.1 ^a	0.2 ^{b,c}	0.005 ^c	0.7 ^a	0.005 ^c	1.0 ^a	0.002 ^c
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GMZ01	HS SER-GMZ01-051616	16-May-16		0.0023	0.0020 U	0.00080 J	0.0123	0.0010 U	0.0034	0.00053 J	0.0081	0.0010 U	0.0010 U	0.0424 ^a	0.0010 U	0.0010 U
	HS SER-GMZ01-080216	2-Aug-16		0.0034	0.0020 U	0.00093 J	0.0114	0.0010 U	0.0039	0.00040 J	0.0136	0.0010 U	0.0010 U	0.0716 ^a	0.0010 U	0.0010 U
	HS SER-GMZ01-120616	6-Dec-16		0.0026	0.0020 U	0.0011	0.0093	0.0010 U	0.0038	0.0010 U	0.0073	0.0010 U	0.0010 U	0.0207 ^a	0.0010 U	0.0010 U
	HS SER-GMZ01-020617	6-Feb-17		0.0029	0.0020 U	0.00047 J	0.0074	0.0010 U	0.0022	0.0010 U	0.0083	0.0010 U	0.0010 U	0.0290 ^a	0.0010 U	0.0010 U
GMZ02	HS SER-GMZ02-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.0015	0.0010 U	0.00042 J	0.0010 U	0.0026	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
	HS SER-GMZ02-080316	3-Aug-16		0.00032 J	0.0020 U	0.0010 U	0.0013	0.0010 U	0.00062 J	0.0010 U	0.0019	0.0010 U	0.0010 U	0.00046 J	0.0010 U	0.0010 U
	HS SER-GMZ02-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00081 J	0.0010 U	0.00046 J	0.0010 U	0.0016	0.0010 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U
	HS SER-GMZ02-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00067 J	0.0010 U	0.0010 U	0.00072 J	0.0010 U	0.0010 U	0.0010 U	0.00031 J	0.0010 U	0.0010 U
GMZ03	HS SER-GMZ03-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00077 J	0.0010 U	0.00048 J	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-051816	18-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00076 J	0.0010 U	0.00041 J	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-080316	3-Aug-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00024 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-120716	7-Dec-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00046 J	0.0010 U	0.00031 J	0.0010 U	0.00060 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-020817	8-Feb-17	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00049 J	0.0010 U	0.00033 J	0.0010 U	0.00064 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
GMZ04	HS SER-GMZ04-051716	17-May-16		0.0010 U	0.0020 U	0.0067	0.0099	0.0010 U	0.0365	0.0010 U	0.21 ^a	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-080416	4-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0022	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0024	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00027 J	0.0010 U	0.00046 J	0.0010 U	0.0028	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
MW07FGA	HS SER-MW07FGA-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0000	0.0010 U	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0010 U	0.0010	0.0010 U	0.0010 U
	HS SER-MW07FGA-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0000	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010	0.0010 U	0.0010 U
	HS SER-MW07FGA-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0015	0.0010 U	0.0010 U	0.0010 U	0.0011	0.0010 U	0.0010 U
	HS SER-MW07FGA-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0023	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
MW203	HS SER-MW203-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0046	0.0010 U	0.0010 U
	HS SER-MW203-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0036	0.0010 U	0.0010 U
	HS SER-MW203-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0057 ^a	0.0010 U	0.0010 U
	HS SER-MW203-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0037	0.0010 U	0.0010 U
SMW01	HS SER-SMW01-051616	16-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0014	0.0010 U	0.0010 U	0.0010 U	0.0025	0.0010 U	0.0010 U
	HS SER-SMW01-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0012	0.0010 U	0.0010 U	0.0010 U	0.0019	0.0010 U	0.0010 U
	HS SER-SMW01-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0010 U	0.0031		

Table 2
Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - GMZ Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) ^A				0.005 ^c	0.005 ^c	0.007 ^{b,c}	0.7 ^A	0.005 ^c	0.07 ^c	0.1 ^c	0.2 ^{b,c}	0.005 ^c	0.7 ^c	0.005 ^c	1.0 ^c	0.002 ^c
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SMW08	HS SER-SMW08-051616	16-May-16		0.0025	0.0020 U	0.00067 J	0.0065	0.0010 U	0.0074	0.0010 U	0.0121	0.0010 U	0.0010 U	0.0371 ^A	0.0010 U	0.0010 U
	HS SER-SMW08-080216	2-Aug-16		0.0016	0.0020 U	0.00079 J	0.0083	0.0010 U	0.0032	0.0010 U	0.0089	0.0010 U	0.0010 U	0.0406 ^A	0.0010	0.0010 U
	HS SER-SMW08-120616	6-Dec-16		0.0062 ^A	0.0020 U	0.00075 J	0.0060	0.0010 U	0.0020	0.0010 U	0.0185	0.0010 U	0.0010 U	0.0808 ^A	0.0010 U	0.0010 U
	HS SER-SMW08-020617	6-Feb-17		0.0018	0.0020 U	0.00033 J	0.0063	0.0010 U	0.0020	0.0010 U	0.0093	0.0010 U	0.0010 U	0.0200 ^A	0.0010 U	0.0010 U
SMW19	HS SER-SMW19-051716	17-May-16		0.0172 ^A	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.00025 J	0.0010 U	0.0010 U	0.00089 J	0.0010 U	0.0010 U
	HS SER-SMW19-080416	4-Aug-16		0.0126 ^A	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00058 J	0.0010 U	0.00024 J	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U
	HS SER-SMW19-120816	8-Dec-16		0.0159 ^A	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.00029 J	0.0010 U	0.0010 U	0.00090 J	0.0010 U	0.0010 U
	HS SER-SMW19-020717	7-Feb-17		0.0144 ^A	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00076 J	0.0010 U	0.00044 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U
SMW20	HS SER-SMW20-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00023 J	0.0010 U	0.0004 J	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
SMW21	HS SER-SMW21-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00059 J	0.0010 U	0.0052	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00059 J	0.0010 U	0.0034	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00069 J	0.0010 U	0.0021	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00022 J	0.0010 U	0.00053 J	0.0010 U	0.0043	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
PMW01	HS SER-PMW01-051716	17-May-16		0.0013	0.0020 U	0.00095 J	0.0039	0.0010 U	0.0039	0.0010 U	0.0122	0.0010 U	0.0010 U	0.0104 ^A	0.0010 U	0.00092 J
	HS SER-PMW01-080316	3-Aug-16		0.00070 J	0.0020 U	0.0010 U	0.0016	0.0010 U	0.00032 J	0.0010 U	0.0055	0.0010 U	0.0010 U	0.0040	0.0010 U	0.0010 U
	HS SER-PMW01-120716	7-Dec-16		0.00094 J	0.0020 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.0040	0.0010 U	0.0010 U	0.0010 U	0.0073 ^A	0.0010 U	0.0010 U
	HS SER-PMW01-020817	8-Feb-17		0.0010	0.0020 U	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0051	0.0010 U	0.0010 U	0.0010 U	0.0116 ^A	0.0010 U	0.0010 U
PMW02	HS SER-PMW02-051816	18-May-16		0.0018	0.0020 U	0.00045 J	0.0035	0.0010 U	0.0050	0.0010 U	0.0137	0.0010 U	0.0010 U	0.024 ^A	0.0010 U	0.0010 U
	HS SER-PMW02-080316	3-Aug-16		0.0017	0.0020 U	0.00031 J	0.0023	0.0010 U	0.00058 J	0.0010 U	0.0128	0.0010 U	0.0010 U	0.0238 ^A	0.0010 U	0.0010 U
	HS SER-PMW02-120816	8-Dec-16		0.0017	0.0020 U	0.0010 U	0.0026	0.0010 U	0.0013	0.0010 U	0.0071	0.0010 U	0.0010 U	0.0240 ^A	0.0010 U	0.0010 U
	HS SER-PMW02-020817	8-Feb-17		0.0021	0.0020 U	0.0010 U	0.0054	0.0010 U	0.0098	0.0010 U	0.0025	0.0010 U	0.0010 U	0.0217 ^A	0.0010 U	0.0088 ^A

Notes:

PRG Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD)

^A Class 1 - Groundwater Remediation Objectives

6.5^A Concentration exceeds the indicated standard.

15.2 Concentration was detected but did not exceed applicable standards.

0.03 U The analyte was not detected above the laboratory estimated quantitation limit.

0.50 U Laboratory estimated quantitation limit exceeded standard.

n/v No standard/guideline value.

- Parameter not analyzed / not available.

mg/L milligrams per liter

^{b,c} Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change.

Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill. Adm. Code 620.410 for

Class I Groundwater or 35 Ill. Adm. Code 620.420 for Class II Groundwater.

^c Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill. Adm. Code 620.410 for

Class I Groundwater or 35 Ill. Adm. Code 620.420 for Class II Groundwater.

^{*} LCS or LCSD exceeds the control limits

B The analyte was detected in the method, field and/or trip blank.

H Sample was prepped or analyzed beyond the specified holding time

J Indicates estimated value.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

Table 3
Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - Performance Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) ^A				0.005 ^a	0.005 ^a	0.007 ^{b,c} ^a	0.7 ^a	0.005 ^a	0.07 ^a	0.1 ^a	0.2 ^{b,c} ^a	0.005 ^a	0.7 ^a	0.005 ^a	1.0 ^a	0.002 ^a
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW01	HS SER-RAMW01-051716	17-May-16		0.0015	0.0020 U	0.00049 J	0.0018	0.0010 U	0.0010 U	0.0010 U	0.0059	0.0010 U	0.0010 U	0.0084^a	0.0010 U	0.0010 U
	HS SER-RAMW01-080416	4-Aug-16		0.00099 J	0.0020 U	0.0010 U	0.0019	0.0010 U	0.00041 J	0.0010 U	0.0042	0.0010 U	0.0010 U	0.0092^a	0.0010 U	0.0010 U
	HS SER-RAMW01-120816	8-Dec-16		0.00086 J	0.0020 U	0.0010 U	0.00083 J	0.0010 U	0.0010 U	0.0010 U	0.0021	0.0010 U	0.0010 U	0.0073^a	0.0010 U	0.0010 U
	HS SER-RAMW01-020817	8-Feb-17		0.00075 J	0.0020 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0060^a	0.0010 U	0.0010 U
RAMW02	HS SER RAMW02-051716	17-May-16		0.00043 J	0.0020 U	0.00024 J	0.0041	0.0010 U	0.0010 U	0.0010 U	0.0039	0.0010 U	0.0010 U	0.0051^a	0.0010 U	0.0010 U
	HS SER RAMW02-080416	4-Aug-16		0.00029 J	0.0020 U	0.0010 U	0.0058	0.0010 U	0.00034 J	0.0010 U	0.0026	0.0010 U	0.0010 U	0.0031	0.0010 U	0.0010 U
	HS SER RAMW02-120816	8-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010	0.0010 U	0.0010 U	0.0010 U	0.0014	0.0010 U	0.0010 U	0.0030	0.0010 U	0.0010 U
	HS SER RAMW02-020717	7-Feb-17		0.00027 J	0.0020 U	0.0010 U	0.0018	0.0010 U	0.0010 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.0021	0.0010 U	0.0010 U
RAMW03	HS SER-RAMW03-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.00028 J	0.0010 U	0.0010 U	
	HS SER-DUP02-051716	17-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.00010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	
	HS SER-RAMW03-080316	3-Aug-16		0.00052 J	0.0020 U	0.0010 U	0.00063 J	0.0010 U	0.0010 U	0.00086 J	0.0010 U	0.0010 U	0.0011	0.0010 U	0.0010 U	
	HS SER-DUP02-080316	3-Aug-16	Field Duplicate	0.00047 J	0.0020 U	0.0010 U	0.00062 J	0.0010 U	0.0010 U	0.00081 J	0.0010 U	0.0010 U	0.0010	0.0010 U	0.0010 U	
	HS SER-RAMW03-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00032 J	0.0010 U	0.0010 U	0.00070 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U	
	HS SER-DUP02-120716	7-Dec-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00034 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U	0.00070 J	0.0010 U	0.0010 U	
	HS SER-RAMW03-020717	7-Feb-17		0.00042 J	0.0020 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
RAMW04	HS SER-RAMW04-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.00049 J	0.0010 U	0.0010 U	0.00079 J	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-080316	3-Aug-16		0.00032 J	0.0020 U	0.0010 U	0.00047 J	0.0010 U	0.0010 U	0.00071 J	0.0010 U	0.0010 U	0.00093 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.00052 J	0.0010 U	0.0010 U	0.00079 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-020717	7-Feb-17		0.00037 J	0.0020 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.00089 J	0.0010 U	0.0010 U	
RAMW05	HS SER-RAMW05-051716	17-May-16		0.00079 J	0.0020 U	0.00099 J	0.00069 J	0.0010 U	0.00096 J	0.0010 U	0.0143	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-080316	3-Aug-16		0.00048 J	0.0020 U	0.0010 U	0.00085 J	0.0010 U	0.0016	0.0010 U	0.0042	0.0010 U	0.0010 U	0.00025 J	0.0010 U	0.0010 U
	HS SER-RAMW05-120719	7-Dec-16		0.00075 J	0.0020 U	0.0010 U	0.0012	0.0010 U	0.0030	0.0010 U	0.0105	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-020717	7-Feb-17		0.0015	0.0020 U	0.0015	0.0030	0.0010 U	0.0072	0.0010 U	0.0702	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW06	HS SER-RAMW06-051616	16-May-16		0.0016	0.0020 U	0.0153^a	0.0044	0.0010 U	0.0047	0.0010 U	0.1540	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-080316	3-Aug-16		0.00051 J	0.0020 U	0.00047 J	0.0029	0.0010 U	0.0065	0.0010 U	0.0271	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00063 J	0.0010 U	0.0017	0.0010 U	0.0124	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-020717	7-Feb-17		0.0011	0.0020 U	0.0061	0.0031	0.0010 U	0.0114	0.0010 U	0.1550	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW07	HS SER-RAMW07-051616	16-May-16		0.050 U	0.10 U	1.780^a	0.170	0.050 U	0.622^a	0.050 U	16.3^a	0.050 U	0.0825	0.050 U	0.050 U	0.050 U
	HS SER-RAMW07-080316	3-Aug-16		0.00089 J	0.0020 U	0.0549^a	0.0756	0.0010 U	0.264^a	0.0010 U	1.19^a	0.0010 U	0.0183	0.020	0.00073 J	0.0010 U
	HS SER-RAMW07-120716	7-Dec-16		0.00035 J	0.0020 U	0.00055 J	0.0040	0.0010 U	0.00062 J	0.0010 U	0.0634	0.0010 U	0.001			

Table 3
Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - Performance Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) ^A				0.005 ^a	0.005 ^a	0.007 ^{b,c}	0.7 ^a	0.005 ^a	0.07 ^a	0.1 ^a	0.2 ^{b,c}	0.005 ^a	0.7 ^a	0.005 ^a	1.0 ^a	0.002 ^a
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW08	HS SER-RAMW08-051616	16-May-16		0.0010 U	0.0020 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-020617	6-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

Notes:

- PRG Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD) ^{b,c} Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change.
- ^A Class 1 - Groundwater Remediation Objectives ^{b,c} Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.
- 6.5^a** Concentration exceeds the indicated standard at specified well; however, compliance with the standard is only applicable to GMZ wells. ^c Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.
- 15.2** Concentration was detected but did not exceed applicable standards. ^B The analyte was detected in the method, field and/or trip blank.
- 0.50 U** Laboratory estimated quantitation limit exceeded standard. ^J Indicates estimated value.
- 0.03 U The analyte was not detected above the laboratory estimated quantitation limit.
- mg/L milligrams per liter
- n/v No standard/guideline value. NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- Parameter not analyzed / not available.

Groundwater monitoring wells located within the influence of active treatment systems yield groundwater sample data that is potentially biased by the treatment activities. This potential bias should be considered during evaluation of this data.

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride		Methylene Chloride										
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)								
12/10/2009		159	53	140	13000	3.76E-02	140 U	0.00E+00	45000	9.67E-02	140 U	0.00E+00	910	1.91E-03	18000	3.79E-02	140 U	0.00E+00	940	3.38E-03	260	7.41E-04	8100	1.10E-02	140 U	0.00E+00
12/22/2009		372	124	140	980	2.84E-03	26 U	0.00E+00	11000	2.36E-02	26 U	0.00E+00	130	2.74E-04	7300	1.54E-02	26 U	0.00E+00	390	1.40E-03	41	1.17E-04	470	6.38E-04	26 U	0.00E+00
2/24/2010		1893	631	150	640	1.99E-03	6.0 U	0.00E+00	1900	4.37E-03	6.0 U	0.00E+00	28	6.31E-05	630	1.42E-03	6.0 U	0.00E+00	150	5.78E-04	24	7.33E-05	33	4.80E-05	6.0 U	0.00E+00
3/15/2010		2345	782	140	1100	3.19E-03	8.4 U	0.00E+00	2800	6.01E-03	8.4 U	0.00E+00	37	7.79E-05	1300	2.74E-03	8.4 U	0.00E+00	180	6.48E-04	30	8.56E-05	32	4.34E-05	8.4 U	0.00E+00
4/14/2010		2804	935	150	1400	4.34E-03	12 U	0.00E+00	4100	9.44E-03	12 U	0.00E+00	31	6.99E-05	1400	3.16E-03	12 U	0.00E+00	790	3.05E-03	86	2.63E-04	91	1.32E-04	12 U	0.00E+00
5/13/2010		3495	1165	140	590	1.71E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	13	2.74E-05	1100	2.31E-03	7.0 U	0.00E+00	300	1.08E-03	32	9.13E-05	10	1.36E-05	7.0 U	0.00E+00
6/21/2010		4430	1477	108	710	1.59E-03	8.6 U	0.00E+00	2600	4.31E-03	8.6 U	0.00E+00	16 J	2.60E-05	570	9.25E-04	8.6 U	0.00E+00	290	8.05E-04	30	6.60E-05	8.6 U	0.00E+00	8.6 U	0.00E+00
7/21/2010		5058	1686	140	480	1.39E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	10	2.10E-05	630	1.33E-03	7.0 U	0.00E+00	710	2.56E-03	42	1.20E-04	70 U	0.00E+00	7.0 U	0.00E+00
8/23/2010		5784	1928	0	370	0.00E+00	8.2 U	0.00E+00	2400	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	540	0.00E+00	8.2 U	0.00E+00	500	0.00E+00	48	0.00E+00	82 U	0.00E+00	8.2 U	0.00E+00
9/23/2010		6523	2174	145	480	1.44E-03	7.2 U	0.00E+00	2000	4.45E-03	7.2 U	0.00E+00	7.2 U	0.00E+00	250	5.45E-04	7.2 U	0.00E+00	380	1.42E-03	31	9.16E-05	72 U	0.00E+00	7.2 U	0.00E+00
10/22/2010	Dup	7219	2406	140	390	1.13E-03	5.0 U	0.00E+00	1600	3.44E-03	5.0 U	0.00E+00	5.0 U	0.00E+00	160	3.37E-04	5.0 U	0.00E+00	240	8.64E-04	21	5.99E-05	50 U	0.00E+00	50 U	0.00E+00
10/22/2010		7219	2406	140	2600	7.53E-03	10 U	0.00E+00	960	2.06E-03	10 U	0.00E+00	120	2.53E-04	490	1.03E-03	10 U	0.00E+00	140	5.04E-04	49	1.40E-04	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	420	1.22E-03	4.3 U	0.00E+00	1700	3.65E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	140	2.95E-04	4.3 U	0.00E+00	140	5.04E-04	16	4.56E-05	43 U	0.00E+00	43 U	0.00E+00
12/22/2010		8508	2777	150	600	1.86E-03	4.2 U	0.00E+00	1600	3.68E-03	4.2 U	0.00E+00	8.5	1.92E-05	510	1.15E-03	4.2 U	0.00E+00	75	2.89E-04	11	3.36E-05	42 U	0.00E+00	42 U	0.00E+00
1/24/2011		9302	2975	170	360	1.27E-03	5.2 U	0.00E+00	1700	4.43E-03	5.2 U	0.00E+00	5.2 U	0.00E+00	140	3.58E-04	5.2 U	0.00E+00	45	1.97E-04	8.6	2.98E-05	52 U	0.00E+00	52 U	0.00E+00
2/25/2011		10071	3167	165	280	9.56E-04	4.0 U	0.00E+00	1600	4.05E-03	4.0 U	0.00E+00	4.5	1.12E-05	120	2.98E-04	4.0 U	0.00E+00	34	1.44E-04	7.4	2.49E-05	40 U	0.00E+00	40 U	0.00E+00
3/18/2011		10573	3293	165	200	6.83E-04	6.3 U	0.00E+00	1900	4.81E-03	6.3 U	0.00E+00	6.3 U	0.00E+00	130	3.22E-04	6.3 U	0.00E+00	32	1.36E-04	6.4	2.15E-05	6.3 U	0.00E+00	6.3 U	0.00E+00
4/15/2011		11241	3460	160	180 J,B	5.96E-04	4.5 U	0.00E+00	1700	4.17E-03	4.5 U	0.00E+00	4.5 U	0.00E+00	110	2.65E-04	4.5 U	0.00E+00	43	1.77E-04	8.6	2.80E-05	4.5 U	0.00E+00	4.5 U	0.00E+00
5/19/2011		12061	3665	160	110	3.64E-04	4.3 U	0.00E+00	1100	2.70E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	85	2.04E-04	4.3 U	0.00E+00	55	2.26E-04	8	2.61E-05	4.3 U	0.00E+00	4.3 U	0.00E+00
6/16/2011		12722	3830	170	150	5.27E-04	2.3 U	0.00E+00	730	1.90E-03	2.3 U	0.00E+00	2.8	7.15E-06	63	1.61E-04	2.3 U	0.00E+00	110	4.81E-04	12	4.16E-05	2.3 U	0.00E+00	2.3 U	0.00E+00
7/15/2011		13417	4472	170	140	4.92E-04	1.2 U	0.00E+00	390	1.02E-03	1.2 U	0.00E+00	2.2	5.62E-06	47	1.20E-04	1.2 U	0.00E+00	170	7.43E-04	14	4.85E-05	1.2 U	0.00E+00	1.2 U	0.00E+00
8/22/2011		14324	4775	170	150	5.27E-04	1.1 U	0.00E+00	210	5.48E-04	1.1 U	0.00E+00	2.1	5.37E-06	36	9.20E-05	1.1 U	0.00E+00	180	7.87E-04	16	5.54E-05	1.1 U	0.00E+00	2.3 U,B	0.00E+00
9/15/2011		14905	4968	170	130	4.57E-04	1.1 U	0.00E+00	130	3.39E-04	1.1 U	0.00E+00	1.5	3.83E-06	40	1.02E-04	1.1 U	0.00E+00	180	7.87E-04	14	4.85E-05	1.5	2.47E-06		

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
				SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)																				
12/10/2009	Dup	159	53	140	140 U	0.00E+00	140 U	0.00E+00	17000	2.38E-02	140 U	0.00E+00	560	1.12E-03	250	5.76E-04	1800	4.15E-03	470	1.08E-03	3800	4.79E-03	140 U	0.00E+00	2.25E-01	11.91
12/22/2009		372	124	140	26 U	0.00E+00	26 U	0.00E+00	1700	2.38E-03	26 U	0.00E+00	32	6.40E-05	26 U	0.00E+00	26 U	0.00E+00	100 U	0.00E+00	26 U	0.00E+00	4.67E-02	15.23		
2/24/2010		1893	631	150	6.0 U	0.00E+00	6.0 U	0.00E+00	130	1.95E-04	19	3.45E-05	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	98	1.32E-04	370	6.20E-04	9.52E-03	20.06		
3/15/2010		2345	782	140	8.4 U	0.00E+00	8.4 U	0.00E+00	170	2.38E-04	8.4 U	0.00E+00	34 U	0.00E+00	8.4 U	0.00E+00	1.30E-02	22.02								
4/14/2010		2804	935	150	12 U	0.00E+00	12 U	0.00E+00	320	4.80E-04	14	2.54E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	50 U	0.00E+00	12 U	0.00E+00	2.10E-02	25.22		
5/13/2010		3495	1165	140	7.0 U	0.00E+00	7.0 U	0.00E+00	100	1.40E-04	12	2.03E-05	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.10E-02	27.75		
6/21/2010		4430	1477	108	8.6 U	0.00E+00	8.6 U	0.00E+00	87 J	9.40E-05	10	1.31E-05	8.6 U	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	34 J	3.31E-05	8.6 U	0.00E+00	7.86E-03	30.20		
7/21/2010		5058	1686	140	7.0 U	0.00E+00	7.0 U	0.00E+00	60	8.40E-05	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.11E-02	32.52								
8/23/2010		5784	1928	0	8.2 U	0.00E+00	8.2 U	0.00E+00	38	0.00E+00	24	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	53	0.00E+00	8.2 U	0.00E+00	0.00E+00	32.52		
9/23/2010		6523	2174	145	7.2 U	0.00E+00	7.2 U	0.00E+00	15	2.18E-05	17	2.99E-05	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	29 U	0.00E+00	7.2 U	0.00E+00	7.99E-03	34.49		
10/22/2010		7219	2406	140	5.0 U	0.00E+00	5.0 U	0.00E+00	11	1.54E-05	7.1	1.20E-05	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	45	5.67E-05	5.0 U	0.00E+00	5.91E-03	35.86		
10/22/2010		7219	2406	140	10 U	0.00E+00	41 U	0.00E+00	10 U	0.00E+00	1.15E-02	37.16														
11/15/2010		7794	2598	140	4.3 U	0.00E+00	4.3 U	0.00E+00	12	1.68E-05	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	5.73E-03	36.96								
12/22/2010		8508	2777	150	4.2 U	0.00E+00	4.2 U	0.00E+00	10	1.50E-05	5.3	9.63E-06	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	16 NJ	2.16E-05	4.2 U	0.00E+00	7.08E-03	38.22		
1/24/2011		9302	2975	170	5.2 U	0.00E+00	21 U	0.00E+00	5.2 U	0.00E+00	6.28E-03	39.47														
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	5.48E-03	40.53		
3/18/2011		10573	3293	165	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	25 U	0.00E+00	5.97E-03	41.27		
4/15/2011		11241	3460	160	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	5.24E-03	42.15		
5/19/2011		12061	3665	160	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	3.52E-03	42.87		
6/16/2011		12722	3830	170	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	9.2 U	0.00E+00	3.12E-03	43.39								
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.5	3.09E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.4	1.13E-05	4.6 U	0.00E+00	2.44E-03	44.96		
8/22/2011		14324	4775	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	6.7	1.38E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	44 JB	6.74E-05	4.5 U	0.00E+00	2.10E-03	45.59		
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	5.6	8.57E-06	4.5 U	0.00E+00	1.75E-03	45.93								
10/14/2011		15598</																								

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride	Methylene Chloride			
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period November 18, 2013 to January 15, 2014																		
1/15/2014		28218	8651	160	100	3.31E-04	1.1 U	0.00E+00	30	7.36E-05	1.1 U	0.00E+00	1.3	3.13E-06	4.7	1.13E-05	1.1 U	0.00E+00
3/14/2014		29432	8894	160	78	2.58E-04	1.1 U	0.00E+00	34	8.35E-05	1.1 U	0.00E+00	3.8	9.14E-06	6.1	1.47E-05	1.1 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																		
5/15/2014		29914	8990	160	95	3.14E-04	1.2 U	0.00E+00	32	7.86E-05	1.2 U	0.00E+00	1.9	4.57E-06	6	1.44E-05	1.2 U	0.00E+00
7/23/2014		31567	9321	160	160	5.29E-04	1.2 U	0.00E+00	41	1.01E-04	1.2 U	0.00E+00	3.6	8.66E-06	9.3	2.24E-05	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																		
9/16/2014		32432	9494	160	480	1.59E-03	2.2 U	0.00E+00	11	2.70E-05	2.2 U	0.00E+00	4	9.62E-06	8.7	2.09E-05	2.2 U	0.00E+00
11/14/2014		33847	9777	160	60	1.99E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.6	3.85E-06	3.6	8.66E-06	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																		
1/9/2015	Dup	33855	9778	160	86	2.85E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	1.1	2.65E-06	4.0	9.62E-06	1.1 U	0.00E+00
1/9/2015	-	-	-	160	84	2.78E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6	1.11E-05	1.2 U	0.00E+00
3/13/2015		35189	10045	160	58	1.92E-04	1.3 U	0.00E+00	17	4.17E-05	1.3 U	0.00E+00	2.4	5.77E-06	3.6	8.66E-06	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																		
5/15/2015		35194	10046	160	63	2.08E-04	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	2.3 U	0.00E+00	2.7	6.49E-06	2.3 U	0.00E+00
7/16/2015		36677	10343	160	110	3.64E-04	1.1 U	0.00E+00	32	7.86E-05	1.1 U	0.00E+00	3.1	7.45E-06	6.7	1.61E-05	1.1 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																		
9/22/2015		36680	10343	160	150	4.96E-04	1.4 U	0.00E+00	29	7.12E-05	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6	1.35E-05	1.4 U	0.00E+00
11/20/2015		38094	10626	160	41	1.36E-04	1.0 U	0.00E+00	9.5	2.33E-05	1.0 U	0.00E+00	1.3	3.13E-06	2.5	6.01E-06	1.0 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																		
1/19/2016		38101	10627	160	80	2.65E-04	1.1 U	0.00E+00	15	3.68E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	2.8	6.73E-06	1.1 U	0.00E+00
3/18/2016		39377	10883	160	48	1.59E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.9	4.57E-06	3.6	8.66E-06	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																		
5/19/2016		39382	10884	160	55	1.82E-04	0.98 U	0.00E+00	14	3.44E-05	0.98 U	0.00E+00	0.98 U	0.00E+00	2.8	6.73E-06	0.98 U	0.00E+00
7/22/2016		40915	11190	160	94	3.11E-04	1.2 U	0.00E+00	22	5.40E-05	1.2 U	0.00E+00	2.3	5.53E-06	4.9	1.18E-05	1.2 U	0.00E+00
Pulse -off period July 22, 2016 to September 20, 2016																		
9/20/2016		40918	11191	160	120	3.97E-04	1.0 U	0.00E+00	16	3.93E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	3.3	7.94E-06	1.0 U	0.00E+00
11/28/2016		42571	11521	160	50	1.65E-04	1.1 U	0.00E+00	16	3.93E-05	1.1 U	0.00E+00	2.4	5.77E-06	3.2	7.70E-06	1.1 U	0.00E+00
Pulse -off period November 28, 2016 to January 24, 2017																		
1/24/2017		42575	11522	170	45	1.58E-04	1.1 U	0.00E+00	12	3.13E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	4.09E-06	1.1 U	0.00E+00
3/23/2017		43840	11775	160	36	1.19E-04	1.2 U	0.00E+00	14	3.44E-05	1.2 U	0.00E+00	2.1	5.05E-06	2.8	6.73E-06	1.2 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
				SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)																				
Pulse -off period	November 18, 2013 to January 15, 2014																									
1/15/2014		28218	8651	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	7.32E-04	49.36								
3/14/2014		29432	8894	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	5.12E-04	49.48								
Pulse -off period	March 14, 2014 to May 15, 2014																									
5/15/2014		29914	8990	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	6.60E-04	49.54								
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.42E-03	50.01				
Pulse -off period	July 23, 2014 to September 16, 2014																									
9/16/2014		32432	9494	160	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.75E-03	50.32								
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	4.74E-04	50.45								
Pulse -off period	November 14, 2014 to January 9, 2015																									
1/9/2015	Dup	33855	9778	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.99E-04	50.45								
1/9/2015	-	-	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	6.95E-04	-									
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	3.99E-04	50.56								
Pulse -off period	March 13, 2015 to May 15, 2015																									
5/15/2015		35194	10046	160	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.2 U	0.00E+00	5.51E-04	50.56								
7/16/2015		36677	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.23E-03	50.92								
Pulse -off period	July 16, 2015 to September 22, 2015																									
9/22/2015		36680	10343	160	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	2.2	5.79E-06	3.4	8.95E-06	1.4 U	0.00E+00	5.5 U	0.00E+00	1.69E-03	50.92		
11/20/2015		38094	10626	160	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.5	3.43E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 U	0.00E+00	3.86E-04	51.03		
Pulse -off period	November 20, 2015 to January 19, 2016																									
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.2 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.2 U	0.00E+00	7.56E-04	51.03								
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	1.00E-05	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	4.18E-04	51.14
Pulse -off period	March 18, 2016 to May 19, 2016																									
5/19/2016		39382	10884	160	0.98 U	0.00E+00	0.98 U	0.00E+00	3.9 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	9.8 U	0.00E+00	3.8 U	0.00E+00	5.38E-04	51.14		
7/22/2016		40915	11190	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.29E-03	51.54								
Pulse -off period	July 22, 2016 to September 20, 2016																									
9/20/2016		40918	11191	160	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.3	2.97E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 U	0.00E+00	1.57E-03	51.54
11/28/2016		42571	11521	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00														

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009	Dup	178	59	150	40000	1.24E-01	86 U	0.00E+00	21000	4.83E-02	86 U	0.00E+00	4500	1.01E-02	25000	5.64E-02	86 U	0.00E+00	1500	5.78E-03
12/15/2009		205	68	140	27000	7.82E-02	110 U	0.00E+00	14000	3.01E-02	110 U	0.00E+00	3100	6.52E-03	16000	3.37E-02	110 U	0.00E+00	950	3.42E-03
12/29/2009		539	180	140	24000	6.95E-02	100 U	0.00E+00	9100	1.95E-02	100 U	0.00E+00	2100	4.42E-03	9200	1.94E-02	100 U	0.00E+00	1000	3.60E-03
1/13/2010		903	301	150	9100	2.82E-02	35 U	0.00E+00	3700	8.52E-03	35 U	0.00E+00	880	1.98E-03	3200	7.21E-03	35 U	0.00E+00	610	2.35E-03
1/27/2010		1224	408	150	13000	4.03E-02	40 U	0.00E+00	4300	9.90E-03	40 U	0.00E+00	1100	2.48E-03	3900	8.79E-03	40 U	0.00E+00	600	2.31E-03
1/27/2010		1224	408	150	14000	4.34E-02	40 U	0.00E+00	4800	1.10E-02	40 U	0.00E+00	1200	2.71E-03	4400	9.92E-03	40 U	0.00E+00	630	2.43E-03
2/24/2010		1893	631	150	8000	2.48E-02	22 U	0.00E+00	3000	6.90E-03	22 U	0.00E+00	520	1.17E-03	2300	5.19E-03	22 U	0.00E+00	200	7.71E-04
3/15/2010		2345	782	140	17000	4.92E-02	48 U	0.00E+00	8000	1.72E-02	48 U	0.00E+00	1100	2.31E-03	6300	1.33E-02	48 U	0.00E+00	860	3.10E-03
4/14/2010		2804	935	150	8400	2.61E-02	23 U	0.00E+00	2200	5.06E-03	23 U	0.00E+00	480	1.08E-03	2000	4.51E-03	23 U	0.00E+00	1300	5.01E-03
5/13/2010		3495	1165	140	8000	2.32E-02	11 U	0.00E+00	3100	6.66E-03	11 U	0.00E+00	480	1.01E-03	2800	5.89E-03	11 U	0.00E+00	380	1.37E-03
6/21/2010		4430	1477	108	5800	1.30E-02	23 U	0.00E+00	3000 J	4.97E-03	23 U	0.00E+00	360 J	5.84E-04	2100	3.41E-03	23 U	0.00E+00	300	8.33E-04
7/21/2010		5058	1686	140	4500	1.30E-02	14 U	0.00E+00	1600	3.44E-03	14 U	0.00E+00	280	5.89E-04	1200	2.53E-03	14 U	0.00E+00	260	9.36E-04
8/23/2010		5784	1928	0	7100	0.00E+00	20 U	0.00E+00	2700	0.00E+00	20 U	0.00E+00	290	0.00E+00	1400	0.00E+00	20 U	0.00E+00	620	0.00E+00
9/23/2010		6523	2174	145	4300	1.29E-02	12 U	0.00E+00	1600	3.56E-03	12 U	0.00E+00	270	5.88E-04	940	2.05E-03	12 U	0.00E+00	290	1.08E-03
10/22/2010		7219	2406	140	2500	7.24E-03	10 U	0.00E+00	890	1.91E-03	10 U	0.00E+00	110	2.31E-04	470	9.89E-04	10 U	0.00E+00	180	6.48E-04
11/15/2010		7794	2598	140	3200	9.27E-03	11 U	0.00E+00	1100	2.36E-03	11 U	0.00E+00	130	2.74E-04	440	9.26E-04	11 U	0.00E+00	120	4.32E-04
12/22/2010		8508	2955	150	4000	1.24E-02	14 U	0.00E+00	1500	3.45E-03	14 U	0.00E+00	240	5.41E-04	730	1.65E-03	14 U	0.00E+00	72	2.78E-04
1/24/2011		9302	3352	170	780	2.74E-03	2.7 U	0.00E+00	800	2.09E-03	2.7 U	0.00E+00	22	5.62E-05	390	9.96E-04	2.7 U	0.00E+00	26	1.14E-04
2/25/2011		10071	3737	165	1500	5.12E-03	4.0 U	0.00E+00	1100	2.78E-03	4.0 U	0.00E+00	44	1.09E-04	560	1.39E-03	4.0 U	0.00E+00	32	1.36E-04
3/18/2011		10573	3988	165	370	1.26E-03	1.0 U	0.00E+00	160	4.05E-04	1.0 U	0.00E+00	11	2.73E-05	62	1.54E-04	1.0 U	0.00E+00	19	8.06E-05
4/15/2011		11241	4322	160	300 J,B	9.93E-04	1.0 U	0.00E+00	95	2.33E-04	1.0 U	0.00E+00	12	2.89E-05	41	9.86E-05	1.0 U	0.00E+00	20	8.23E-05
5/19/2011		12061	4732	160	93	3.08E-04	1.1 U	0.00E+00	39	9.57E-05	1.1 U	0.00E+00	3.5	8.42E-06	21	5.05E-05	1.1 U	0.00E+00	14	5.76E-05
6/16/2011		12722	5062	170	99	3.48E-04	1.2 U	0.00E+00	48	1.25E-04	1.2 U	0.00E+00	2.4	6.13E-06	21	5.37E-05	1.2 U	0.00E+00	30	1.31E-04
7/15/2011		13417	4472	170	77	2.71E-04	1.2 U	0.00E+00	25	6.52E-05	1.2 U	0.00E+00	1.7	4.34E-06	18	4.60E-05	1.2 U	0.00E+00	30	1.31E-04
8/22/2011		14324	4775	170	78	2.74E-04	1.2 U	0.00E+00	31	8.09E-05	1.2 U	0.00E+00	1.2	3.07E-06	17	4.34E-05	1.2 U	0.00E+00	54	2.36E-04
9/15/2011		14905	4968	170	69	2.43E-04	1.1 U	0.00E+00	20	5.22E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	12	3.07E-05	1.1 U	0.00E+00	32	1.40E-04
10/14/2011		15598	5199	160	43	1.42E-04	0.82 U	0.00E+00	12	2.95E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	6.3	1.52E-05	0.82 U	0.00E+00	8.4	3.46E-05
11/21/2011		16510	5503	170	28 J,B	9.85E-05	1.6 U	0.00E+00	7.7	2.01E-05	1.6 U	0.00E+00	1.6 U	0.00E+00	4.1	1.05E-05	1.6 U	0.00E+00	7	3.06E-05
12/14/2011		17010	5670	170	26	9.14E-05	0.76 U	0.00E+00	5.2	1.36E-05	0.76 U	0.00E+00								

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009	Dup	178	59	150	330	1.01E-03	4400	6.40E-03	86 U	0.00E+00	86 U	0.00E+00	86 U	0.00E+00	210	3.15E-04	86 U	0.00E+00	200	4.29E-04
12/15/2009		205	68	140	240	6.84E-04	3500	4.75E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	370	5.18E-04	110 U	0.00E+00	140	2.80E-04
12/29/2009		539	180	140	240	6.84E-04	1500	2.03E-03	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	120	1.68E-04	100 U	0.00E+00	100 U	0.00E+00
1/13/2010		903	301	150	130	3.97E-04	250	3.63E-04	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	170	2.55E-04	35 U	0.00E+00	35 U	0.00E+00
1/27/2010		1224	408	150	150	4.58E-04	200	2.91E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	120	1.80E-04	40 U	0.00E+00	40 U	0.00E+00
1/27/2010		1224	408	150	180	5.50E-04	240	3.49E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	130	1.95E-04	40 U	0.00E+00	40 U	0.00E+00
2/24/2010		1893	631	150	98	2.99E-04	73	1.06E-04	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	38	5.70E-05	22 U	0.00E+00	22 U	0.00E+00
3/15/2010		2345	782	140	210	5.99E-04	62	8.41E-05	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	180	2.52E-04	48 U	0.00E+00	48 U	0.00E+00
4/14/2010		2804	935	150	190	5.81E-04	69	1.00E-04	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00
5/13/2010		3495	1165	140	78	2.22E-04	42	5.70E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	20	2.80E-05	11 U	0.00E+00	11 U	0.00E+00
6/21/2010		4430	1477	108	88	1.94E-04	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	33 J	3.56E-05	23 U	0.00E+00	23 U	0.00E+00
7/21/2010		5058	1686	140	80	2.28E-04	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
8/23/2010		5784	1928	0	150	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	21	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	74	2.19E-04	12	1.69E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
10/22/2010		7219	2406	140	42	1.20E-04	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	35	9.98E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
12/22/2010		8508	2955	150	27	8.25E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
1/24/2011		9302	3352	170	9	3.12E-05	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	3.1	7.53E-06
2/25/2011		10071	3737	165	15	5.04E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3988	165	7.3	2.45E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
4/15/2011		11241	4322	160	8.5	2.77E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
5/19/2011		12061	4732	160	11	3.59E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	8.1	1.57E-05	1.1 U	0.00E+00
6/16/2011		12722	5062	170	15	5.19E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.9	3.91E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	21	7.27E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	5.3	1.09E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	22	7.62E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
9/15/2011		14905	4968	170	18	6.23E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	4.6	9.47E-06	1.1 U	0.00E+00
10/14/2011		15598	5199	160	9.1	2.97E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	3.3 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00
11/21/2011		16510	5503	170	5.1	1.77E-05	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00
12/14/2011		17010	5670	170	3.4	1.18E-05	0.76 U	0.00E+00	7.6 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.78	1.61E-06	0.76 U	0.00E+00
1/19/																				

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Cumulative Mass Removal (lb)	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/11/2009	Dup	178	59	150	86 U	0.00E+00	240	5.93E-04	110	2.72E-04	340 U	0.00E+00	86 U	0.00E+00	2.54E-01	15.05
12/15/2009		205	68	140	110 U	0.00E+00	230	5.30E-04	110 U	0.00E+00	430 U	0.00E+00	110 U	0.00E+00	1.59E-01	16.48
12/29/2009		539	180	140	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.19E-01	29.76
1/13/2010		903	301	150	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	140 U	0.00E+00	35 U	0.00E+00	4.93E-02	35.75
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	6.47E-02	42.68
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	7.06E-02	43.31
2/24/2010		1893	631	150	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	87 U	0.00E+00	22 U	0.00E+00	3.93E-02	51.44
3/15/2010		2345	782	140	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	190 U	0.00E+00	48 U	0.00E+00	8.60E-02	64.40
4/14/2010		2804	935	150	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	4.24E-02	70.89
5/13/2010		3495	1165	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	3.84E-02	79.74
6/21/2010		4430	1477	108	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	2.30E-02	86.90
7/21/2010		5058	1686	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	58 U	0.00E+00	14 U	0.00E+00	2.07E-02	91.24
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	91.24
9/23/2010		6523	2174	145	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	2.04E-02	96.27
10/22/2010		7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	42 U	0.00E+00	10 U	0.00E+00	1.11E-02	98.85
11/15/2010		7794	2598	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	44 U	0.00E+00	11 U	0.00E+00	1.34E-02	101.41
12/22/2010		8508	2955	150	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	56 U	0.00E+00	14 U	0.00E+00	1.84E-02	107.99
1/24/2011		9302	3352	170	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	11 U	0.00E+00	11	2.09E-05	6.06E-03	110.39
2/25/2011		10071	3737	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	9.59E-03	114.08
3/18/2011		10573	3988	165	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	15	2.23E-05	4.0 U	0.00E+00	1.98E-03	114.57
4/15/2011		11241	4322	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	8.2 J,B	1.18E-05	4.1 U	0.00E+00	1.48E-03	115.07
5/19/2011		12061	4732	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.58E-05	4.5 U	0.00E+00	5.87E-04	115.31
6/16/2011		12722	5062	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.7 U	0.00E+00	7.49E-04	115.55
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.6 U	0.00E+00	6.30E-04	115.18
8/22/2011		14324	4775	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8 J,B	1.04E-05	4.7 U	0.00E+00	7.28E-04	115.40
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.68E-05	4.5 U	0.00E+00	5.54E-04	115.51
10/14/2011		15598	5199	160	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	5	7.20E-06	3.3 U	0.00E+00	2.58E-04	115.57
11/21/2011		16510	5503	170	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U,J	0.00E+00	6.4 U	0.00E+00	1.77E-04	115.62
12/14/2011		17010	5670	170	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	7.6 U,J	0.00E+00	3.0 U	0.00E+00	1.65E-04	115.65
1/19/2012		17923	5974	170	0.79	2.21E-06	1.5	4.20E-06	1.1	3.08E-06	14	2.14E-05	3.0 U	0.00E+00	1.80E-04	115.71
2/15/2012		18566	6189	170	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	7.9	1.21E-05	2.9 U	0.00E+00	1.83E-04	115.74
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	8.9	1.36E-05	2.8 U	0.00E+00	1.75E-04	115.79
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	1.88E-04	115.84
5/16/2012		20748	6916	160	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	1.94E-04	115.88
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	21	3.03E-05	5.3 U	0.00E+00	1.79E-03	116.20
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.						

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013 4/11/2013		22556 23581	7518 7723	160 160	1.9 140	6.29E-06 4.63E-04	1.2 U 1.2 U	0.00E+00 0.00E+00	1.2 U 10	0.00E+00 2.45E-05	1.2 U 1.2 U	0.00E+00 0.00E+00	1.2 U 4	0.00E+00 9.62E-06	1.2 U 3.3	0.00E+00 7.94E-06	1.2 U 1.2 U	0.00E+00 0.00E+00	1.2 U 5.4	0.00E+00 2.22E-05
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013 7/15/2013 7/15/2013		23583 25160 25160	7724 8039 8039	160 160 160	210 160 160	6.95E-04 5.29E-04 5.29E-04	1.1 U 1.1 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	62 20 20	1.52E-04 4.91E-05 4.91E-05	1.2 U 1.1 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	3.9 3.7 3.2	9.38E-06 8.90E-06 7.70E-06	5.4 3.7 3.5	1.30E-05 8.90E-06 8.42E-06	1.1 U 1.1 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	6.4 21 17	2.63E-05 8.64E-05 6.99E-05
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013 11/18/2013		25162 26825	8040 8372	160 160	380 44	1.26E-03 1.46E-04	2.0 U 1.1 U	0.00E+00 0.00E+00	110 11	2.70E-04 2.70E-05	2.0 U 1.1 U	0.00E+00 0.00E+00	3.4 1.3	8.18E-06 3.13E-06	7 2.3	1.68E-05 5.53E-06	2.0 U 1.1 U	0.00E+00 0.00E+00	49 14	2.02E-04 5.76E-05
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014 3/14/2014 3/14/2014		28218 29432 29432	8651 8894 8894	160 160 160	160 16 19	5.29E-04 5.29E-05 6.29E-05	1.2 U 1.2 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	55 1.2 U 1.6	1.35E-04 0.00E+00 3.93E-06	1.2 U 1.2 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	3.3 1.2 U 1.2 U	7.94E-06 0.00E+00 0.00E+00	2.9 1.9 1.8	6.97E-06 4.57E-06 4.33E-06	1.2 U 1.2 U 1.2 U	0.00E+00 0.00E+00 0.00E+00	7.2 1.2 U 1.7	2.96E-05 0.00E+00 6.99E-06
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014 7/23/2014		29914 31567	8990 9321	160 160	240 89	7.94E-04 2.95E-04	1.1 U 1.2 U	0.00E+00 0.00E+00	99 20	2.43E-04 4.91E-05	1.1 U 1.2 U	0.00E+00 0.00E+00	4.8 1.8	1.15E-05 4.33E-06	7.8 3.7	1.88E-05 8.90E-06	1.1 U 1.2 U	0.00E+00 0.00E+00	14 11	5.76E-05 4.52E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014 11/14/2014		32432 33847	9494 9777	160 160	310 42	1.03E-03 1.39E-04	2.1 U 1.1 U	0.00E+00 0.00E+00	120 7.8	2.95E-04 1.91E-05	2.1 U 1.1 U	0.00E+00 0.00E+00	3.9 1.1 U	9.38E-06 0.00E+00	6 1.6	1.44E-05 3.85E-06	2.1 U 1.1 U	0.00E+00 0.00E+00	19 11	7.82E-05 4.52E-05
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015 3/13/2015		33855 35189	9778 10045	160 160	210 18	6.95E-04 5.96E-05	1.2 U 1.3 U	0.00E+00 0.00E+00	69 5.4	1.69E-04 1.33E-05	1.2 U 1.3 U	0.00E+00 0.00E+00	3.7 1.3 U	8.90E-06 0.00E+00	3.4 1.3 U	8.18E-06 0.00E+00	1.2 U 1.3 U	0.00E+00 0.00E+00	8.2 3.5	3.37E-05 1.44E-05
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015 7/16/2015		35194 36677	10046 10343	160 160	240 64	7.94E-04 2.12E-04	1.2 U 1.2 U	0.00E+00 0.00E+00	76 17	1.87E-04 4.17E-05	1.2 U 1.2 U	0.00E+00 0.00E+00	3.0 1.7	7.21E-06 4.09E-06	3.5 4.2	8.42E-06 1.01E-05	1.2 U 1.2 U	0.00E+00 0.00E+00	8.2 8.6	3.37E-05 3.54E-05
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015 11/20/2015		36680 38094	10343 10626	160 160	450 43	1.49E-03 1.42E-04	1.1 U 1.2 U	0.00E+00 0.00E+00	210 12	5.16E-04 2.95E-05	1.1 U 1.2 U	0.00E+00 0.00E+00	3.4 1.2 U	8.18E-06 0.00E+00	9.6 1.5	2.31E-05 3.61E-06	1.1 U 1.2 U	0.00E+00 0.00E+00	28 14	1.15E-04 5.76E-05
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016 3/18/2016		38101 39377	10627 10883	160 160	260 23	8.60E-04 7.61E-05	1.1 U 1.1 U	0.00E+00 0.00E+00	89 9.5	2.18E-04 2.33E-05	1.1 U 1.1 U	0.00E+00 0.00E+00	2.5 1.1 U	6.01E-06 0.00E+00	3.2 1.1 U	7.70E-06 0.00E+00	1.1 U 1.1 U	0.00E+00 0.00E+00	14 3.6	5.76E-05 1.48E-05
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016 7/22/2016		39382 40915	10884 11190	160 160	210 33	6.95E-04 1.09E-04	1.2 U 1.2 U	0.00E+00 0.00E+00												

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse-off period	December	14, 2012 to February 26, 2013																		
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	8	2.61E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	April 11, 2013 to May 10, 2013																			
5/10/2013		23583	7724	160	9.5	3.10E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	18	2.88E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		25160	8039	160	24	7.82E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013	Dup	25160	8039	160	24	7.82E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	July 15, 2013 to September 9, 2013																			
9/9/2013		25162	8040	160	31	1.01E-04	2.0 U	0.00E+00	20 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	8.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
11/18/2013		26825	8372	160	8.4	2.74E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period	November 18, 2013 to January 15, 2014																			
1/15/2014		28218	8651	160	7.2	2.35E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	4.9	1.12E-05
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	1.5	4.89E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	March 14, 2014 to May 15, 2014																			
5/15/2014		29914	8990	160	6.6	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	16	2.56E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		31567	9321	160	19	6.19E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	July 23, 2014 to September 16, 2014																			
9/16/2014		32432	9494	160	26	8.47E-05	2.1 U	0.00E+00	21 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.3 U	0.00E+00	3.5	6.78E-06	2.1 U	0.00E+00
11/14/2014		33847	9777	160	7.3	2.38E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period	November 14, 2014 to January 9, 2015																			
1/9/2015		33855	9778	160	9.3	3.03E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/13/2015		35189	10045	160	3.0	9.78E-06	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.0 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
Pulse-off period	March 13, 2015 to May 15, 2015																			
5/15/2015		35194	10046	160	5.4	1.76E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.0	1.12E-05	1.2 U	0.00E+00	1.2 U	0.00E+00
7/16/2015		36677	10343	160	18.0	5.87E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	July 16, 2015 to September 22, 2015																			
9/22/2015		36680	10343	160	30	9.78E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		38094	10626	160	9.7	3.16E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period	November 20, 2015 to January 19, 2016																			
1/19/2016		38101	10627	160	8.5	2.77E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		39377	10883	160	3	9.78E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period	March 18, 2016 to May 19, 2016																			
5/19/2016		39382	10884	160	4.2	1.37E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/22/2016		40915	11190	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.5	2.91E-06	1.2 U	0.00E+00
Pulse-off period	July 22, 2016 to September 20, 2016																			
9/20/2016		40918	11191	160	20	6.52E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/28/2016		42571	11521	160	8.9	2.90E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period	November 28, 2016 to January 24, 2017																			
1/24/2017		42575	11522	170	8.7	3.01E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/23/2017		43840	11775	160	5.6	1.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

molecular weight (values from the U.S. National Library of Medicine's PubChem database).

MW Molecular W
of Medicine)

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or

B trip blank.

When a duplicate sample w

are used in the mass calculations.

Table 4.2.C.2

1.b) 4.2 C-2

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period	December 14, 2012 to February 26, 2013															
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5 U	0.00E+00	6.29E-06	116.86
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	5.54E-04	116.97
Pulse -off period	April 11, 2013 to May 10, 2013															
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	9.56E-04	116.97
7/15/2013		25160	8039	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	7.61E-04	117.21
7/15/2013	Dup	25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.43E-04	-
Pulse -off period	July 15, 2013 to September 9, 2013															
9/9/2013		25162	8040	160	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	20 U	0.00E+00	8.0 U	0.00E+00	1.86E-03	117.21
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.66E-04	117.30
Pulse -off period	November 18, 2013 to January 15, 2014															
1/15/2014		28218	8651	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	7.44E-04	117.51
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	5.75E-05	117.52
3/14/2014	Dup	29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	8.30E-05	-
Pulse -off period	March 14, 2014 to May 15, 2014															
5/15/2014		29914	8990	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	25	3.60E-05	11 U	0.00E+00	1.21E-03	117.64
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	4.64E-04	117.79
Pulse -off period	July 23, 2014 to September 16, 2014															
9/16/2014		32432	9494	160	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	1.51E-03	118.05
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.31E-04	118.12
Pulse -off period	November 14, 2014 to January 9, 2015															
1/9/2015		33855	9778	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	9.45E-04	118.12
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.0 U	0.00E+00	9.70E-05	118.15
Pulse -off period	March 13, 2015 to May 15, 2015															
5/15/2015		35194	10046	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	1.06E-03	118.15
7/16/2015		36677	10343	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	3.62E-04	118.25
Pulse -off period	July 16, 2015 to September 22, 2015															
9/22/2015		36680	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	118.26
11/20/2015		38094	10626	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	2.65E-04	118.33
Pulse -off period	November 20, 2015 to January 19, 2016															
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.18E-03	118.33
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.24E-04	118.36
Pulse -off period	March 18, 2016 to May 19, 2016															
5/19/2016		39382	10884	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	9.87E-04	118.36
7/22/2016		40915	11190	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	2.77E-04	118.45
Pulse -off period	July 22, 2016 to September 20, 2016															
9/20/2016		40918	11191	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.52E-03	118.45
11/28/2016		42571	11521	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.32E-04	118.53
Pulse -off period	November 28, 2016 to January 24, 2017															
1/24/2017		42575	11522	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.74E-04	118.53
3/23/2017		43840	11775	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	1.61E-04	118.57

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library of Medicine)

SCFM standard cubic feet per minute

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/14/2009	Dup	181	60	140	94000	2.72E-01	270 U	0.00E+00	1100	2.36E-03	270 U	0.00E+00	2300	4.84E-03	8100	1.70E-02	270 U	0.00E+00	750	2.70E-03
12/16/2009		229	76	150	46000	1.43E-01	110 U	0.00E+00	710	1.63E-03	110 U	0.00E+00	1100	2.48E-03	5500	1.24E-02	110 U	0.00E+00	400	1.54E-03
1/5/2010		707	236	140	42000	1.22E-01	150 U	0.00E+00	290	6.23E-04	150 U	0.00E+00	980	2.06E-03	1500	3.16E-03	150 U	0.00E+00	240	8.64E-04
1/21/2010		1084	361	150	15000	4.65E-02	42 U	0.00E+00	260	5.98E-04	42 U	0.00E+00	280	6.31E-04	1600	3.61E-03	42 U	0.00E+00	170	6.56E-04
1/21/2010		1084	361	150	16000	4.96E-02	43 U	0.00E+00	280	6.44E-04	43 U	0.00E+00	290	6.54E-04	1700	3.83E-03	43 U	0.00E+00	170	6.56E-04
2/24/2010		1893	631	150	11000	3.41E-02	28 U	0.00E+00	240	5.52E-04	28 U	0.00E+00	280	6.31E-04	1100	2.48E-03	28 U	0.00E+00	140	5.40E-04
3/15/2010		2345	782	140	20000	5.79E-02	21 U	0.00E+00	400	8.59E-04	21 U	0.00E+00	510	1.07E-03	1900	4.00E-03	21 U	0.00E+00	280	1.01E-03
4/14/2010		2804	935	150	31000	9.62E-02	100 U	0.00E+00	380	8.75E-04	100 U	0.00E+00	1100	2.48E-03	1200	2.71E-03	100 U	0.00E+00	820	3.16E-03
5/13/2010		3495	1165	140	8300	2.40E-02	12 U	0.00E+00	220	4.73E-04	12 U	0.00E+00	190	4.00E-04	960	2.02E-03	12 U	0.00E+00	200	7.20E-04
6/21/2010		4430	1477	108	7200	1.61E-02	21 U	0.00E+00	220	3.65E-04	21 U	0.00E+00	150	2.43E-04	660	1.07E-03	21 U	0.00E+00	160	4.44E-04
7/21/2010		5058	1686	140	6100	1.77E-02	20 U	0.00E+00	120	2.58E-04	20 U	0.00E+00	130	2.74E-04	460	9.68E-04	20 U	0.00E+00	120	4.32E-04
8/23/2010		5784	1928	0	8000	0.00E+00	20 U	0.00E+00	200	0.00E+00	20 U	0.00E+00	120	0.00E+00	490	0.00E+00	20 U	0.00E+00	220	0.00E+00
9/23/2010		6523	2174	145	6600	1.98E-02	11 U	0.00E+00	140	3.11E-04	11 U	0.00E+00	140	3.05E-04	440	9.59E-04	11 U	0.00E+00	160	5.96E-04
10/22/2010		7219	2406	140	3700	1.07E-02	14 U	0.00E+00	91	1.95E-04	14 U	0.00E+00	66	1.39E-04	210	4.42E-04	14 U	0.00E+00	110	3.96E-04
11/15/2010		7794	2598	140	4600	1.33E-02	15 U	0.00E+00	120	2.58E-04	15 U	0.00E+00	64	1.35E-04	170	3.58E-04	15 U	0.00E+00	88	3.17E-04
12/22/2010		8508	2777	150	5600	1.74E-02	20 U	0.00E+00	150	3.45E-04	20 U	0.00E+00	120	2.71E-04	330	7.44E-04	20 U	0.00E+00	56	2.16E-04
1/24/2011		9302	2975	170	2200	7.74E-03	8.3 U	0.00E+00	130	3.39E-04	8.3 U	0.00E+00	27	6.90E-05	200	5.11E-04	8.3 U	0.00E+00	35	1.53E-04
2/25/2011		10071	3167	165	1300	4.44E-03	4.0 U	0.00E+00	45	1.14E-04	4.0 U	0.00E+00	25	6.20E-05	72	1.79E-04	4.0 U	0.00E+00	28	1.19E-04
3/18/2011		10573	3293	165	360	1.23E-03	1.3 U	0.00E+00	24	6.08E-05	1.3 U	0.00E+00	5.4	1.34E-05	35	8.68E-05	1.3 U	0.00E+00	13	5.51E-05
4/15/2011		11241	3460	160	160 J,B	5.29E-04	1.0 U	0.00E+00	17	4.17E-05	1.0 U	0.00E+00	2.8	6.73E-06	28	6.73E-05	1.0 U	0.00E+00	15	6.17E-05
5/19/2011		12061	3665	160	64	2.12E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	1.4	3.37E-06	12	2.89E-05	1.2 U	0.00E+00	9.6	3.95E-05
6/16/2011		12722	3830	170	160	5.63E-04	1.2 U	0.00E+00	280	7.30E-04	1.2 U	0.00E+00	2.5	6.39E-06	34	8.69E-05	1.2 U	0.00E+00	61	2.67E-04
7/15/2011		13417	4472	170	190	6.68E-04	1.2 U	0.00E+00	8.3	2.16E-05	1.2 U	0.00E+00	2.8	7.15E-06	23	5.88E-05	1.2 U	0.00E+00	22	9.62E-05
8/22/2011		14324	4775	170	1600	5.63E-03	4.3 U	0.00E+00	19	4.96E-05	4.3 U	0.00E+00	21	5.37E-05	130	3.32E-04	4.3 U	0.00E+00	39	1.70E-04
9/15/2011		14905	4968	170	800	2.81E-03	3.7 U	0.00E+00	9.5	2.48E-05	3.7 U	0.00E+00	12	3.07E-05	62	1.58E-04	3.7 U	0.00E+00	24	1.05E-04
10/14/2011		15598	5199	160	750	2.48E-03	3.0 U	0.00E+00	10	2.45E-05	3.0 U	0.00E+00	13	3.13E-05	37	8.90E-05	3.0 U	0.00E+00	15	6.17E-05
11/21/2011		16510	5503	170	380	1.34E-03	1.4 U	0.00E+00	6.6	1.72E-05	1.4 U	0.00E+00	5.6	1.43E-05	24	6.13E-05	1.4 U	0.00E+00	7.9	3.45E-05
12/14/2011		17010	5670	170	830	2.92E-03	3.5 U	0.00E+00	8.7	2.27E-05	3.5 U	0.00E+00	70	1.79E-04	33	8.43E-05	3.5 U	0.00E+00	6.9	3.02E-05
1/19/2012		17923	5974	170	800	2.81E-03	3.0 U	0.00E+00	12	3.13E-05	3.0 U	0.00E+00</								

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																								
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene					
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/14/2009	Dup	181	60	140	1000	2.85E-03	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00		
12/16/2009		229	76	150	550	1.68E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00		
1/5/2010		707	236	140	250	7.13E-04	150 U	0.00E+00	220	4.06E-04	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00		
1/21/2010		1084	361	150	140	4.28E-04	42 U	0.00E+00	42 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00		
1/21/2010		1084	361	150	140	4.28E-04	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00		
2/24/2010		1893	631	150	66	2.02E-04	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00		
3/15/2010		2345	782	140	120	3.42E-04	51	6.92E-05	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00		
4/14/2010		2804	935	150	190	5.81E-04	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00		
5/13/2010		3495	1165	140	43	1.23E-04	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00		
6/21/2010		4430	1477	108	55	1.21E-04	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00		
7/21/2010		5058	1686	140	44	1.25E-04	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00		
8/23/2010		5784	1928	0	66	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00		
9/23/2010		6523	2174	145	50	1.48E-04	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00		
10/22/2010		7219	2406	140	31	8.84E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00		
11/15/2010		7794	2598	140	29	8.27E-05	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00		
12/22/2010		8508	2777	150	21	6.42E-05	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00		
1/24/2011		9302	2975	170	17	5.89E-05	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00		
2/25/2011		10071	3167	165	16	5.38E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00		
3/18/2011		10573	3293	165	5.9	1.98E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.4 U	0.00E+00	1.9	3.80E-06	1.3 U	0.00E+00		
4/15/2011		11241	3460	160	7.7	2.51E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	2.6	5.04E-06	1.0 U	0.00E+00				
5/19/2011		12061	3665	160	6.9	2.25E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.9	3.68E-06	1.2 U	0.00E+00				
6/16/2011		12722	3830	170	9.8	3.39E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00				
7/15/2011		13417	4472	170	9.3	3.22E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00				
8/22/2011		14324	4775	170	21	7.27E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00				
9/15/2011		14905	4968	170	14	4.85E-05	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	4.1	8.44E-06	3.7 U	0.00E+00				
10/14/2011		15598	5199	160	13	4.24E-05	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00						

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																		
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)		
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)				
12/14/2009	Dup	181	60	140	270 U	0.00E+00	1600	3.69E-03	510	1.18E-03	1100 U	0.00E+00	270 U	0.00E+00	3.07E-01	18.51		
12/16/2009		229	76	150	110 U	0.00E+00	540	1.33E-03	240	5.93E-04	590	7.97E-04	110 U	0.00E+00	1.65E-01	21.16		
1/5/2010		707	236	140	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	590 U	0.00E+00	150 U	0.00E+00	1.29E-01	41.78		
1/21/2010		1084	361	150	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	170 U	0.00E+00	42 U	0.00E+00	5.25E-02	48.37		
1/21/2010		1084	361	150	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	170 U	0.00E+00	43 U	0.00E+00	5.59E-02	48.80		
2/24/2010		1893	631	150	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00	3.85E-02	58.76		
3/15/2010		2345	782	140	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	6.53E-02	68.60		
4/14/2010		2804	935	150	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.06E-01	84.81		
5/13/2010		3495	1165	140	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	48 U	0.00E+00	12 U	0.00E+00	2.78E-02	91.21		
6/21/2010		4430	1477	108	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	1.83E-02	96.92		
7/21/2010		5058	1686	140	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	79 U	0.00E+00	20 U	0.00E+00	1.97E-02	101.05		
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	101.05		
9/23/2010		6523	2174	145	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	2.21E-02	106.49		
10/22/2010		7219	2406	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	55 U	0.00E+00	14 U	0.00E+00	1.20E-02	109.27		
11/15/2010		7794	2598	140	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	59 U	0.00E+00	15 U	0.00E+00	1.45E-02	112.05		
12/22/2010		8508	2777	150	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	82 U	0.00E+00	20 U	0.00E+00	1.90E-02	115.44		
1/24/2011		9302	2975	170	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	33 U	0.00E+00	8.3 U	0.00E+00	8.87E-03	117.20		
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	4.96E-03	118.15		
3/18/2011		10573	3293	165	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	10	1.49E-05	5.4 U	0.00E+00	1.48E-03	118.34		
4/15/2011		11241	3460	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	7.3 J,B	1.05E-05	4.1 U	0.00E+00	7.48E-04	118.47		
5/19/2011		12061	3665	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	3.34E-04	118.53		
6/16/2011		12722	3830	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8	1.04E-05	4.7 U	0.00E+00	1.70E-03	118.81		
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.7	1.18E-05	4.8 U	0.00E+00	8.96E-04	119.39		
8/22/2011		14324	4775	170	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	6.30E-03	121.30		
9/15/2011		14905	4968	170	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	3.19E-03	121.91		
10/14/2011		15598	5199	160	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	2.73E-03	122.54		
11/21/2011		16510	5503	170	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	5.5 U	0.00E+00	1.50E-03	123.00		
12/14/2011		17010	5670	170	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	380 J	5.82E-04	58	1.10E-04	4.00E-03	123.67		
1/19/2012		17923	5974	170	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	3.03E-03	124.59		
2/15/2012		18566	6189	170	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	6.70E-03	126.03		
3/15/2012		19262	6421	170	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	6.04E-03	127.43		
4/19/2012		20102	6701	160	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.3 U	0.00E+00	7.3 U	0.00E+00	2.13E-03	128.02		
5/16/2012		20748	6916	160	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	1.16E-03	128.27		
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		21282	7094	160	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	4.27E-03	129.03		
9/17/2012		219																

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	10916	160	240	7.94E-04	1.2 U	0.00E+00	5	1.23E-05	1.2 U	0.00E+00	4.1	1.36E-05	16	3.85E-05	1.2 U	0.00E+00	18	7.40E-05
3/14/2014		29432	11645	160	72	2.38E-04	1.2 U	0.00E+00	8.7	2.14E-05	1.2 U	0.00E+00	2.4	7.94E-06	6.4	1.54E-05	1.2 U	0.00E+00	9.5	3.91E-05
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	11934	160	770	2.55E-03	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	12	3.97E-05	86	2.07E-04	2.3 U	0.00E+00	6.9	2.84E-05
7/23/2014		31567	12926	160	130	4.30E-04	1.4 U	0.00E+00	5	1.23E-05	1.4 U	0.00E+00	1.4	4.63E-06	10	2.40E-05	1.4 U	0.00E+00	10	4.11E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	13445	160	390	1.29E-03	2.4 U	0.00E+00	15	3.68E-05	2.4 U	0.00E+00	3	7.21E-06	8.4	2.02E-05	2.4 U	0.00E+00	17	6.99E-05
11/14/2014		33847	14294	160	180	5.96E-04	1.2 U	0.00E+00	5.2	1.28E-05	1.2 U	0.00E+00	3	9.93E-06	25	6.01E-05	1.2 U	0.00E+00	18	7.40E-05
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	14299	160	220	7.28E-04	1.1 U	0.00E+00	4.7	1.15E-05	1.1 U	0.00E+00	2.2	5.29E-06	18	4.33E-05	1.1 U	0.00E+00	11	4.52E-05
3/13/2015		35189	15099	160	200	6.62E-04	1.2 U	0.00E+00	4.4	1.08E-05	1.2 U	0.00E+00	3.1	1.03E-05	14	3.37E-05	1.2 U	0.00E+00	4.2	1.73E-05
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	15102	160	300	9.93E-04	1.2 U	0.00E+00	5.6	1.37E-05	1.2 U	0.00E+00	3.1	7.45E-06	10	2.40E-05	1.2 U	0.00E+00	8.1	3.33E-05
7/16/2015		36677	15992	160	180	5.96E-04	1.2 U	0.00E+00	6.5	1.60E-05	1.2 U	0.00E+00	2.3	7.61E-06	19	4.57E-05	1.2 U	0.00E+00	6	2.47E-05
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		36680	15994	160	530	1.75E-03	2.3 U	0.00E+00	11	2.70E-05	2.3 U	0.00E+00	2.6	6.25E-06	10	2.40E-05	2.3 U	0.00E+00	18	7.40E-05
11/20/2015		38094	16842	160	64	2.12E-04	1.1 U	0.00E+00	3.2	7.86E-06	1.1 U	0.00E+00	1.2	2.89E-06	5.4	1.30E-05	1.1 U	0.00E+00	7.3	3.00E-05
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		38101	16846	160	68	2.25E-04	1.1 U	0.00E+00	2.6	6.38E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.13E-06	1.1 U	0.00E+00	12	4.94E-05
3/18/2016		39377	17612	160	66	2.18E-04	1.1 U	0.00E+00	2.4	5.89E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	9.14E-06	1.1 U	0.00E+00	2.7	1.11E-05
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		39382	17615	160	240	7.94E-04	1.1 U	0.00E+00	110	2.70E-04	1.1 U	0.00E+00	2.7	6.49E-06	3.7	8.90E-06	1.1 U	0.00E+00	6.4	2.63E-05
7/22/2016		40915	17921	160	120	3.97E-04	1.3 U	0.00E+00	5.2	1.28E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	9.7	2.33E-05	1.3 U	0.00E+00	9.6	3.95E-05
Pulse -off period July 22, 2016 to September 20, 2016																				
9/20/2016		40918	17923	160	220	7.28E-04	1.2 U	0.00E+00	5.1	1.25E-05	1.2 U	0.00E+00	1.5	3.61E-06	3.9	9.38E-06	1.2 U	0.00E+00	15	6.17E-05
11/28/2016		42571	18915	160	19	6.29E-05	1.0 U	0.00E+00	1.6	3.93E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	7.2	2.96E-05
Pulse -off period November 28, 2016 to January 24, 2017																				
1/24/2017		42575	18917	170	42	1.48E-04	1.1 U	0.00E+00	1.9	4.96E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	2.7	1.18E-05
3/23/2017		43840	19676	160	130	4.30E-04	1.3 U	0.00E+00	4.1	1.01E-05	1.3 U	0.00E+00	1.8	4.33E-06	9.2	2.21E-05	1.3 U	0.00E+00	2.8	1.15E-05

Notes:

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT					SVE System Effluent Data																		
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene				
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	
Pulse-off period November 18, 2013 to January 15, 2014																							
1/15/2014		28218	10916	160	7.6	2.48E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
3/14/2014		29432	11645	160	8.1	2.64E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
Pulse-off period March 14, 2014 to May 15, 2014																							
5/15/2014		29914	11934	160	20	6.52E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00			
7/23/2014		31567	12926	160	9	2.93E-05	1.4 U	0.00E+00	14 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00			
Pulse-off period July 23, 2014 to September 16, 2014																							
9/16/2014		32432	13445	160	14	4.56E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	3	5.81E-06	2.4 U	0.00E+00			
11/14/2014		33847	14294	160	6.2	2.02E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
Pulse-off period November 14, 2014 to January 9, 2015																							
1/9/2015		33855	14299	160	6	1.96E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
3/13/2015		35189	15099	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
Pulse-off period March 13, 2015 to May 15, 2015																							
5/15/2015		35194	15102	160	10	3.26E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
7/16/2015		36677	15992	160	12	3.91E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
Pulse-off period July 16, 2015 to September 22, 2015																							
9/22/2015		36680	15994	160	14	4.56E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00			
11/20/2015		38094	16842	160	14	4.56E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
Pulse-off period November 20, 2015 to January 19, 2016																							
1/19/2016		38101	16846	160	7	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
3/18/2016		39377	17612	160	11	3.59E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
Pulse-off period March 18, 2016 to May 19, 2016																							
5/19/2016		39382	17615	160	4.2	1.37E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
7/22/2016		40915	17921	160	9	2.93E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00			
Pulse-off period July 22, 2016 to September 20, 2016																							
9/20/2016		40918	17923	160	8.5	2.77E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00			
11/28/2016		42571	18915	160	2.3	7.50E-06	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00			
Pulse-off period November 28, 2016 to January 24, 2017																							
1/24/2017		42575	18917	170	2.7	9.35E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00			
3/23/2017		43840	19676	160	6.1	1.99E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00			

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library
SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	10916	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	9.57E-04	136.88
3/14/2014		29432	11645	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.48E-04	137.13
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	11934	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	2.92E-03	137.98
7/23/2014		31567	12926	160	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	14 U	0.00E+00	5.6 U	0.00E+00	5.42E-04	138.52
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	13445	160	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	1.48E-03	139.28
11/14/2014		33847	14294	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12	1.73E-05	4.6 U	0.00E+00	7.90E-04	139.95
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	14299	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.53E-04	139.96
3/13/2015		35189	15099	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	7.79E-04	140.58
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	15102	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.10E-03	140.58
7/16/2015		36677	15992	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.29E-04	141.23
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015		36680	15994	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	1.93E-03	141.24
11/20/2015		38094	16842	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	3.11E-04	141.50
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016		38101	16846	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.05E-04	141.50
3/18/2016		39377	17612	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.80E-04	141.72
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016		39382	17615	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.12E-03	141.72
7/22/2016		40915	17921	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	5.02E-04	141.87
Pulse -off period July 22, 2016 to September 20, 2016																
9/20/2016		40918	17923	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	8.43E-04	141.87
11/28/2016		42571	18915	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.2 U	0.00E+00	1.04E-04	141.98
Pulse -off period November 28, 2016 to January 24, 2017																
1/24/2017		42575	18917	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.74E-04	141.98
3/23/2017		43840	19676	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	4.98E-04	142.36

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library
SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT																		
Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011	Dup	222	222	500	150000	1.55E+00	600 U	0.00E+00	1800	1.38E-02	600 U	0.00E+00	860	6.46E-03	1400	1.05E-02	600 U	0.00E+00
3/18/2011		366	366	500	41000	4.24E-01	150 U	0.00E+00	1000	7.67E-03	150 U	0.00E+00	250	1.88E-03	460	3.46E-03	150 U	0.00E+00
3/18/2011		366	366	500	40000	4.14E-01	130 U	0.00E+00	1000	7.67E-03	130 U	0.00E+00	300	2.25E-03	480	3.61E-03	130 U	0.00E+00
3/25/2011		463	463	500	22000	2.28E-01	62 U	0.00E+00	980	7.52E-03	62 U	0.00E+00	87	6.54E-04	290	2.18E-03	62 U	0.00E+00
3/30/2011		558	558	500	25000	2.59E-01	68 U	0.00E+00	820	6.29E-03	68 U	0.00E+00	190	1.43E-03	290	2.18E-03	68 U	0.00E+00
4/8/2011		764	764	500	22000	2.28E-01	80 U	0.00E+00	1000	7.67E-03	80 U	0.00E+00	170	1.28E-03	340	2.56E-03	80 U	0.00E+00
4/15/2011		924	924	500	18000	1.86E-01	84 U	0.00E+00	930	7.13E-03	84 U	0.00E+00	110	8.27E-04	280	2.10E-03	84 U	0.00E+00
4/15/2011		924	924	500	16000 J	1.65E-01	60 U	0.00E+00	820 J	6.29E-03	60 U	0.00E+00	60 UJ	0.00E+00	260 J	1.95E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	11000	1.14E-01	11 U	0.00E+00	640	4.91E-03	11 U	0.00E+00	100	7.52E-04	190	1.43E-03	11 U	0.00E+00
6/16/2011		2191	2191	420	10000	8.69E-02	11 U	0.00E+00	530	3.42E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
6/16/2011		2191	2191	420	9600	8.34E-02	11 U	0.00E+00	510	3.29E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
7/15/2011		2750	2750	420	7600	6.60E-02	24 U	0.00E+00	290	1.87E-03	24 U	0.00E+00	58	3.66E-04	79	4.99E-04	24 U	0.00E+00
8/22/2011		3133	3133	420	9000	7.82E-02	27 U	0.00E+00	410	2.64E-03	27 U	0.00E+00	92	5.81E-04	160	1.01E-03	27 U	0.00E+00
8/22/2011		3133	3133	420	9000	7.82E-02	22 U	0.00E+00	400	2.58E-03	22 U	0.00E+00	80	5.05E-04	150	9.47E-04	22 U	0.00E+00
9/15/2011		3630	3630	420	7000	6.08E-02	22 U	0.00E+00	250	1.61E-03	22 U	0.00E+00	55	3.47E-04	97	6.12E-04	22 U	0.00E+00
10/14/2011		4226	4226	420	4400	3.82E-02	19 U	0.00E+00	180	1.16E-03	19 U	0.00E+00	59	3.72E-04	60	3.79E-04	19 U	0.00E+00
11/21/2011		5019	5019	380	3700	2.91E-02	16 U	0.00E+00	170	9.91E-04	16 U	0.00E+00	320	1.83E-03	63	3.60E-04	16 U	0.00E+00
12/14/2011		5343	5343	260	4000	2.15E-02	19 U	0.00E+00	140	5.58E-04	19 U	0.00E+00	300	1.17E-03	55	2.15E-04	19 U	0.00E+00
1/19/2012		5993	5993	0	5200	0.00E+00	24 U	0.00E+00	160	0.00E+00	24 U	0.00E+00	58	0.00E+00	38	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	4200	2.26E-02	19 U	0.00E+00	100	3.99E-04	19 U	0.00E+00	700	2.74E-03	53	2.07E-04	19 U	0.00E+00
3/15/2012		6946	6946	350	4000	2.90E-02	15 U	0.00E+00	120	6.44E-04	15 U	0.00E+00	38	2.00E-04	38	2.00E-04	15 U	0.00E+00
4/19/2012		7629	7629	380	5200	4.09E-02	16 U	0.00E+00	160	9.33E-04	16 U	0.00E+00	42	2.40E-04	43	2.46E-04	16 U	0.00E+00
5/16/2012		8143	8143	420	4100	3.56E-02	15 U	0.00E+00	110	7.09E-04	15 U	0.00E+00	43	2.71E-04	40	2.53E-04	15 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	5000	4.34E-02	16 U	0.00E+00	98	6.32E-04	16 U	0.00E+00	66	4.17E-04	27	1.70E-04	16 U	0.00E+00
9/17/2012		9033	9033	470	3700	3.60E-02	15 U	0.00E+00	140	1.01E-03	15 U	0.00E+00	15 U	0.00E+00	26	1.84E-04	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																		
11/15/2012	Dup	9037	9037	420	4900 J	4.26E-02	28 U	0.00E+00	74 J	4.77E-04	28 U	0.00E+00	110 J	6.94E-04	29 J	1.83E-04	28 U	0.00E+00
11/15/2012		9037	9037	420	8700	7.56E-02	24 U	0.00E+00	200 J	1.29E-03	24 U	0.00E+00	220	1.39E-03	360 J	2.27E-03	24 U	0.00E+00
12/14/2012		9439	9439	150	500	1.55E-03	1.9 U	0.00E+00	14	3.22E-05	1.9 U	0.00E+00	6.8	1.53E-05	18	4.06E-05	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	520	0.00E+00	2.2 U	0.00E+00	23	0.00E+00	2.2 U	0.00E+00	5.7	0.00E+00	28	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	430	3.02E-03	1.8 U	0.00E+00	26	1.36E-04	1.8 U	0.00E+00	7.1	3.63E-05</				

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	7200	9.26E-02	3900	3.97E-02	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	2400 U	0.00E+00	600 U	0.00E+00
3/18/2011		366	366	500	2900	3.73E-02	1600	1.63E-02	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	750 J	3.75E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	3000	3.86E-02	1600	1.63E-02	130 UJ	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	1100 J	5.50E-03	130 U	0.00E+00
3/25/2011		463	463	500	3200	4.11E-02	970	9.88E-03	62 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	610	3.05E-03	62 U	0.00E+00
3/30/2011		558	558	500	2500	3.21E-02	1000	1.02E-02	68 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	470	2.35E-03	68 U	0.00E+00
4/8/2011		764	764	500	2400	3.09E-02	1000	1.02E-02	80 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	430	2.15E-03	80 U	0.00E+00
4/15/2011		924	924	500	1700	2.19E-02	920	9.37E-03	84 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	340 U	0.00E+00	84 U	0.00E+00
4/15/2011	Dup	924	924	500	1500 J	1.93E-02	830 J	8.45E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	260 J	1.30E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	1400	1.80E-02	530	5.40E-03	28	0.00E+00	28	1.55E-04	24 U	0.00E+00	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00
6/16/2011		2191	2191	420	1000	1.08E-02	410	3.51E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	46 U	0.00E+00	14	7.12E-05
6/16/2011	Dup	2191	2191	420	960	1.04E-02	400	3.42E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	45 U	0.00E+00	12	6.10E-05
7/15/2011		2750	2750	420	570	6.16E-03	250	2.14E-03	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	110 U	0.00E+00	27 U	0.00E+00
8/22/2011		3133	3133	420	920	9.93E-03	380	3.25E-03	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
8/22/2011	Dup	3133	3133	420	940	1.02E-02	360	3.08E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	97 U	0.00E+00	24 U	0.00E+00
9/15/2011		3630	3630	420	660	7.13E-03	270	2.31E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
10/14/2011		4226	4226	420	390	4.21E-03	180	1.54E-03	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	77 U	0.00E+00	19 U	0.00E+00
11/21/2011		5019	5019	380	360	3.52E-03	180	1.39E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	74 U	0.00E+00	19 U	0.00E+00
12/14/2011		5343	5343	260	360	2.41E-03	160	8.47E-04	19 U	0.00E+00	190 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	7.5 U	0.00E+00	1.9 U	0.00E+00
1/19/2012		5993	5993	0	320	0.00E+00	180	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	280	1.87E-03	150	7.94E-04	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	78 U	0.00E+00	19 U	0.00E+00
3/15/2012		6946	6946	350	240	2.16E-03	140	9.98E-04	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	58 U	0.00E+00	15 U	0.00E+00
4/19/2012		7629	7629	380	400	3.91E-03	180	1.39E-03	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	62 U	0.00E+00	16 U	0.00E+00
5/16/2012		8143	8143	420	320	3.46E-03	150	1.28E-03	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8546	8546	420	490	5.29E-03	180	1.54E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
9/17/2012		9033	9033	470	410	4.95E-03	220	2.11E-03	15 U	0.00E+00	150 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9037	9037	420	260 J	2.81E-03	150 J	1.28E-03	28 U	0.00E+00	280 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	1200 J	1.30E-02	390 J	3.34E-03	24 U	0.00E+00	240 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	94 U	0.00E+00	24 U	0.00E+00
12/14/2012		9439	9439	150	62	2.39E-04	28	8.56E-05	1.9 U	0.00E+00	19 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	7.5 U	0.00		

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011	Dup	222	222	500	600 U	0.00E+00	600 U	0.00E+00	710	5.84E-03	600 U	0.00E+00	2400 U	0.00E+00	2400 U	0.00E+00	1.72E+00	381.87
3/18/2011		366	366	500	620 J	4.43E-03	150 U	0.00E+00	240	1.98E-03	200	1.65E-03	1500 J	6.75E-03	590 U	0.00E+00	5.09E-01	453.50
3/18/2011		366	366	500	380 J	2.71E-03	130 U	0.00E+00	250	2.06E-03	240	1.98E-03	690 J	3.11E-03	540 U	0.00E+00	4.97E-01	453.50
3/25/2011		463	463	500	140	1.00E-03	62 U	0.00E+00	78	6.42E-04	67	5.51E-04	250 U	0.00E+00	250 U	0.00E+00	2.95E-01	482.07
3/30/2011		558	558	500	190	1.36E-03	68 U	0.00E+00	250	2.06E-03	140	1.15E-03	270 U	0.00E+00	270 U	0.00E+00	3.18E-01	512.25
4/8/2011		764	764	500	200	1.43E-03	120	9.88E-04	560	4.61E-03	260	2.14E-03	320 U	0.00E+00	320 U	0.00E+00	2.91E-01	572.27
4/15/2011		924	924	500	170	1.21E-03	110	9.05E-04	540	4.44E-03	260	2.14E-03	340 U	0.00E+00	340 U	0.00E+00	2.36E-01	610.05
4/15/2011		924	924	500	140 J	1.00E-03	99 J	8.15E-04	540 J	4.44E-03	230 J	1.89E-03	240 J,B	1.08E-03	240 U	0.00E+00	2.12E-01	610.05
5/19/2011		1685	1685	500	100	7.14E-04	140	1.15E-03	920	7.57E-03	420	3.46E-03	81	3.65E-04	43 U	0.00E+00	1.58E-01	730.28
6/16/2011		2191	2191	420	51	3.06E-04	83	5.74E-04	600	4.15E-03	280	1.94E-03	46 J,B	1.74E-04	46 U	0.00E+00	1.14E-01	753.86
6/16/2011		2191	2191	420	53	3.18E-04	78	5.39E-04	580	4.01E-03	270	1.87E-03	69 J,B	2.61E-04	45 U	0.00E+00	1.09E-01	785.55
7/15/2011		2750	2750	420	28	1.68E-04	41	2.83E-04	270	1.87E-03	120	8.30E-04	180	6.81E-04	95 U	0.00E+00	8.10E-02	830.85
8/22/2011		3133	3133	420	35 J	2.10E-04	59 J	4.08E-04	340	2.35E-03	140	9.68E-04	110 U	0.00E+00	110 U	0.00E+00	9.95E-02	868.97
8/22/2011		3133	3133	420	22 UJ	0.00E+00	30 J	2.07E-04	310	2.14E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	9.87E-02	868.65
9/15/2011		3630	3630	420	22 U	0.00E+00	31	2.14E-04	340	2.35E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	7.63E-02	906.88
10/14/2011		4226	4226	420	38	2.28E-04	19 U	0.00E+00	170	1.18E-03	70	4.84E-04	77 U	0.00E+00	77 U	0.00E+00	4.78E-02	935.35
11/21/2011		5019	5019	380	16 U	0.00E+00	17	1.06E-04	220	1.38E-03	100	6.25E-04	160 U	0.00E+00	63 U	0.00E+00	3.93E-02	966.50
12/14/2011		5343	5343	260	19 U	0.00E+00	19 U	0.00E+00	76	3.25E-04	55	2.35E-04	190 UU	0.00E+00	74 U	0.00E+00	2.73E-02	975.34
1/19/2012		5993	5993	0	36	0.00E+00	24 U	0.00E+00	78	0.00E+00	50	0.00E+00	97 U	0.00E+00	97 U	0.00E+00	0.00E+00	975.34
2/15/2012		6368	6368	260	19 U	0.00E+00	19 U	0.00E+00	58	2.48E-04	40	1.71E-04	300	7.02E-04	78 U	0.00E+00	2.97E-02	986.48
3/15/2012		6946	6946	350	15 U	0.00E+00	15 U	0.00E+00	44	2.53E-04	31	1.79E-04	58 U	0.00E+00	58 U	0.00E+00	3.36E-02	1005.89
4/19/2012		7629	7629	380	16 U	0.00E+00	16 U	0.00E+00	48	3.00E-04	33	2.06E-04	62 U	0.00E+00	62 U	0.00E+00	4.81E-02	1038.74
5/16/2012		8143	8143	420	15 U	0.00E+00	15 U	0.00E+00	28	1.94E-04	23	1.59E-04	61 U	0.00E+00	61 U	0.00E+00	4.19E-02	1060.30
Pulse-off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	160 U	0.00E+00	63 U	0.00E+00	5.15E-02	1081.05
9/17/2012		9033	9033	470	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	150 U	0.00E+00	61 U	0.00E+00	4.42E-02	1102.58
Pulse-off period September 17, 2012 to November 15, 2012																		
11/15/2012	Dup	9037	9037	420	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	280 U	0.00E+00	110 U	0.00E+00	4.80E-02	1102.78
11/15/2012		9037	9037	420	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	240 U	0.00E+00	94 U	0.00E+00	9.68E-02	-
12/14/2012		9439	9439	150	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00	7.5 U	0.00E+00	1.96E-03	1103.57
Pulse-off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	8.7 U	0.00E+00	0.00E+00	1103.57
4/11/2013		9876	9876	340	1.8 U	0.00E+00	1.8 U											

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT																		
Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period November 18, 2013 to March 14, 2014																		
1/15/2014		11997	11997	320	200	1.32E-03	1.2 U	0.00E+00	5.5	2.70E-05	1.2 U	0.00E+00	3.3	1.59E-05	9.6	4.62E-05	1.2 U	0.00E+00
3/14/2014		12980	12980	180	430	1.60E-03	2.6 U	0.00E+00	6.2	1.71E-05	2.6 U	0.00E+00	8.2	2.22E-05	18	4.87E-05	2.6 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																		
5/15/2014		12986	12986	180	470	1.75E-03	1.1 U	0.00E+00	10	2.76E-05	1.1 U	0.00E+00	6.9	1.87E-05	22	5.95E-05	1.1 U	0.00E+00
7/23/2014		14627	14627	300	14	8.69E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.6	0.00E+00	1.3 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																		
9/16/2014		14634	14628	320	150	9.93E-04	1.2 U	0.00E+00	9	4.42E-05	1.2 U	0.00E+00	1.7	8.18E-06	15	7.21E-05	1.2 U	0.00E+00
11/14/2014		16008	16008	320	220	1.46E-03	0.96 U	0.00E+00	5	2.45E-05	0.96 U	0.00E+00	3.6	1.73E-05	8.9	4.28E-05	0.96 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																		
1/9/2015		16015	16015	260	150	8.07E-04	1.1 U	0.00E+00	4.1	1.64E-05	1.1 U	0.00E+00	2.2	8.60E-06	7.4	2.89E-05	1.1 U	0.00E+00
3/13/2015		17178	17178	220	190	8.65E-04	1.2 U	0.00E+00	4.9	1.65E-05	1.2 U	0.00E+00	3.1	1.03E-05	5.5	1.82E-05	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																		
5/15/2015		17186	17186	320	180	1.19E-03	2.6 U	0.00E+00	4.3	2.11E-05	2.6 U	0.00E+00	2.8	1.35E-05	5.2	2.50E-05	2.6 U	0.00E+00
7/16/2015		18436	18436	310	270	1.73E-03	1.2 U	0.00E+00	7.7	3.66E-05	1.2 U	0.00E+00	4	1.86E-05	13	6.06E-05	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																		
9/22/2015		18439	18439	300	200	1.24E-03	1.1 U	0.00E+00	6.3	2.90E-05	1.1 U	0.00E+00	2.1	9.47E-06	11	4.96E-05	1.1 U	0.00E+00
11/20/2015		19832	19832	530	170	1.86E-03	1.2 U	0.00E+00	7	5.69E-05	1.2 U	0.00E+00	2.6	2.07E-05	12	9.56E-05	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																		
1/19/2016		19841	19841	380	39	3.07E-04	1.1 U	0.00E+00	1.7	9.91E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.4	1.94E-05	1.1 U	0.00E+00
3/18/2016		21088	21088	420	88	7.64E-04	1.1 U	0.00E+00	5	3.22E-05	1.1 U	0.00E+00	1.2	7.57E-06	6.8	4.29E-05	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																		
5/19/2016		21092	21092	180	9.3	3.46E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
5/19/2016	Dup	21092	21092	180	14	5.21E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	4.33E-06	1.1 U	0.00E+00
7/22/2016		22610	22610	230	33	1.57E-04	1.0 U	0.00E+00	1.9	6.70E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	3.5	1.21E-05	1.0 U	0.00E+00
Pulse -off period July 22, 2016 to September 20, 2016																		
9/20/2016*		22611	22611	180	33	1.23E-04	1.0 U	0.00E+00	1.9	5.25E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	3.5	9.47E-06	1.0 U	0.00E+00
11/28/2016		24162	24162	100	17	3.52E-05	1.1 U	0.00E+00	1.7	2.61E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.9	2.86E-06	1.1 U	0.00E+00
Pulse -off period November 28, 2016 to January 24, 2017																		
1/24/2017		24166	24166	220	19	8.65E-05	1.1 U	0.00E+00	1.5	5.06E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.5	4.96E-06	1.1 U	0.00E+00
1/24/2017	Dup	24166	24166	220	22	1.00E-04	1.1 U	0.00E+00	1.7	5.74E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.5	4.96E-06	1.1 U	0.00E+00
3/23/2017		25427	25427	190	55	2.16E-04	1.2 U	0.00E+00	4.1	1.20E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	3.4	9.71E-06	1.2 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass	Conc (ppbv)	Mass
Pulse -off period November 18, 2013 to March 14, 2014																				
1/15/2014		11997	11997	320	51	4.20E-04	11	7.17E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		12980	12980	180	7.8	3.61E-05	14	5.13E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		12986	12986	180	38	1.76E-04	17	6.23E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		14627	14627	300	15	1.16E-04	2.4	1.47E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14634	14628	320	200	1.65E-03	39	2.54E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	2	7.75E-06
11/14/2014		16008	16008	320	69	5.68E-04	12	7.82E-05	0.96 U	0.00E+00	9.6 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	3.8 U	0.00E+00	0.96 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16015	16015	260	50	3.34E-04	11	5.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17178	17178	220	27	1.53E-04	6.9	3.09E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17186	17186	320	45	3.70E-04	9.8	6.39E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
7/16/2015		18436	18436	310	130	1.04E-03	27	1.71E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		18439	18439	300	200	1.54E-03	36	2.20E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		19832	19832	530	120	1.64E-03	23	2.48E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		19841	19841	380	62	6.06E-04	11	8.51E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21088	21088	420	52	5.62E-04	11	9.41E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		21092	21092	180	14	6.48E-05	2.4	8.80E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
5/19/2016	Dup	21092	21092	180	21	9.72E-05	3.9	1.43E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
7/22/2016		22610	22610	230	39	2.31E-04	7.5	3.51E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00
Pulse -off period July 22, 2016 to September 20, 2016																				
9/20/2016*		22611	22611	180	39	1.80E-04	7.5	2.75E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00
11/28/2016		24162	24162	100	14	3.60E-05	2.8	5.70E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 28, 2016 to January 24, 2017																				
1/24/2017		24166	24166	220	18	1.02E-04	4	1.79E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
1/24/2017	Dup	24166	24166	220	19	1.07E-04	4	1.79E-05												

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse-off period November 18, 2013 to March 14, 2014																		
1/15/2014		11997	11997	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.90E-03	1110.91
3/14/2014		12980	12980	180	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.78E-03	1112.65
Pulse-off period March 14, 2014 to May 15, 2014																		
5/15/2014		12986	12986	180	3.9	1.00E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.10E-03	1112.67
7/23/2014		14627	14627	300	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	2.17E-04	1113.02
Pulse-off period July 23, 2014 to September 16, 2014																		
9/16/2014		14634	14628	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	21	6.05E-05	4.9 U	0.00E+00	3.09E-03	1113.03
11/14/2014		16008	16008	320	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	9.6 U	0.00E+00	3.8 U	0.00E+00	2.19E-03	1116.04
Pulse-off period November 14, 2014 to January 9, 2015																		
1/9/2015		16015	16015	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	1.25E-03	1116.05
3/13/2015		17178	17178	220	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.09E-03	1117.32
Pulse-off period March 13, 2015 to May 15, 2015																		
5/15/2015		17186	17186	320	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.68E-03	1117.34
7/16/2015		18436	18436	310	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.05E-03	1121.16
Pulse-off period July 16, 2015 to September 22, 2015																		
9/22/2015		18439	18439	300	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.09E-03	1121.16
11/20/2015		19832	19832	530	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	3.92E-03	1126.63
Pulse-off period November 20, 2015 to January 19, 2016																		
1/19/2016		19841	19841	380	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.03E-03	1126.63
3/18/2016		21088	21088	420	2.7	1.62E-05	1.1 U	0.00E+00	9.7	6.71E-05	4.1	2.83E-05	11 U	0.00E+00	4.5 U	0.00E+00	1.61E-03	1128.65
Pulse-off period March 18, 2016 to May 19, 2016																		
5/19/2016		21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.08E-04	1128.65
5/19/2016	Dup	21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.68E-04	-
7/22/2016		22610	22610	230	1.2	3.94E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	18	3.73E-05	4.2 U	0.00E+00	4.83E-04	1129.38
Pulse-off period July 22, 2016 to September 20, 2016																		
9/20/2016*		22611	22611	180	1.2	3.09E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	18	2.92E-05	4.2 U	0.00E+00	3.78E-04	1129.38
11/28/2016		24162	24162	100	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	8.23E-05	1129.51
Pulse-off period November 28, 2016 to January 24, 2017																		
1/24/2017		24166	24166	220	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.16E-04	1129.51
1/24/2017	Dup	24166	24166	220	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.36E-04	-
3/23/2017		25427	25427	190	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	3.53E-04	1129.95

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

*A sample could not be collected in September 2016 due to insufficient vacuum in the summa can. The sample results from July 22, 2016 are shown (*in italics*) for September 20, 2016 and are used in calculations.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011	Dup	218	218	360	28000	2.08E-01	100 U	0.00E+00	2400	1.33E-02	100 U	0.00E+00	740	4.00E-03	10000	5.41E-02	100 U	0.00E+00	5900	5.46E-02
3/18/2011		362	362	360	13000	9.68E-02	52 U	0.00E+00	1100	6.08E-03	52 U	0.00E+00	280	1.52E-03	4800	2.60E-02	52 U	0.00E+00	6800	6.29E-02
3/25/2011		459	459	360	8900	6.63E-02	30 U	0.00E+00	650	3.59E-03	30 U	0.00E+00	200	1.08E-03	2600	1.41E-02	30 U	0.00E+00	5400	5.00E-02
3/30/2011		553	553	360	4600	3.43E-02	13 U	0.00E+00	310	1.71E-03	13 U	0.00E+00	100	5.41E-04	1300	7.03E-03	13 U	0.00E+00	4000	3.70E-02
4/8/2011		759	759	360	4600	3.43E-02	20 U	0.00E+00	330	1.82E-03	20 U	0.00E+00	95	5.14E-04	1100	5.95E-03	20 U	0.00E+00	5700	5.28E-02
4/15/2011		920	920	360	4600	3.43E-02	20 U	0.00E+00	370	2.04E-03	20 U	0.00E+00	69	3.73E-04	980	5.30E-03	20 U	0.00E+00	4600	4.26E-02
5/19/2011		1681	1681	330	2800	1.91E-02	12 U	0.00E+00	250	1.27E-03	12 U	0.00E+00	34	1.69E-04	730	3.62E-03	12 U	0.00E+00	7800	6.62E-02
6/16/2011		2187	2187	300	1800	1.12E-02	7.8 U	0.00E+00	170	7.82E-04	7.8 U	0.00E+00	23 J	1.04E-04	520	2.34E-03	7.8 U	0.00E+00	2400	1.85E-02
7/15/2011		2745	2745	220	2400	1.09E-02	7.6 U	0.00E+00	180	6.08E-04	7.6 U	0.00E+00	27	8.93E-05	840	2.78E-03	7.6 U	0.00E+00	2700	1.53E-02
8/22/2011		3129	3129	260	1700	9.14E-03	5.0 U	0.00E+00	150	5.98E-04	5.0 U	0.00E+00	21	8.21E-05	690	2.70E-03	5.0 U	0.00E+00	2000	1.34E-02
9/15/2011		3626	3626	220	1400	6.37E-03	4.5 U	0.00E+00	69	2.33E-04	4.5 U	0.00E+00	22	7.27E-05	380	1.26E-03	4.5 U	0.00E+00	1100	6.22E-03
10/14/2011		4222	4222	220	980	4.46E-03	3.9 U	0.00E+00	57	1.92E-04	3.9 U	0.00E+00	19	6.28E-05	310	1.03E-03	3.9 U	0.00E+00	760	4.30E-03
11/21/2011		5015	5015	200	690	2.85E-03	3.2 U	0.00E+00	55	1.69E-04	3.2 U	0.00E+00	45	1.35E-04	290	8.72E-04	3.2 U	0.00E+00	380	1.95E-03
11/21/2011		5015	5015	200	700	2.90E-03	3.1 U	0.00E+00	57	1.75E-04	3.1 U	0.00E+00	59	1.77E-04	300	9.02E-04	3.1 U	0.00E+00	390	2.01E-03
12/14/2011		5339	5339	200	890	3.68E-03	3.2 U	0.00E+00	62	1.90E-04	3.2 U	0.00E+00	64	1.92E-04	270	8.12E-04	3.2 U	0.00E+00	350	1.80E-03
1/19/2012		5958	5958	0	540	0.00E+00	2.8 U	0.00E+00	17	0.00E+00	2.8 U	0.00E+00	9.9	0.00E+00	69	0.00E+00	2.8 U	0.00E+00	78	0.00E+00
2/15/2012		6364	6364	0	990	0.00E+00	4.1 U	0.00E+00	24	0.00E+00	4.1 U	0.00E+00	100	0.00E+00	230	0.00E+00	4.1 U	0.00E+00	150	0.00E+00
3/15/2012		6942	6942	0	1100	0.00E+00	3.8 U	0.00E+00	43	0.00E+00	3.8 U	0.00E+00	20	0.00E+00	220	0.00E+00	3.8 U	0.00E+00	140	0.00E+00
4/19/2012		7625	7625	80	650	1.08E-03	2.4 U	0.00E+00	28	3.44E-05	2.4 U	0.00E+00	8.1	9.74E-06	130	1.56E-04	2.4 U	0.00E+00	100	2.06E-04
5/16/2012		8138	8138	200	650	2.69E-03	2.0 U	0.00E+00	28	8.59E-05	2.0 U	0.00E+00	8.9	2.68E-05	110	3.31E-04	2.0 U	0.00E+00	130	6.68E-04
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8541	8541	360	710	3.23E-03	2.5 U	0.00E+00	44	1.49E-04	2.5 U	0.00E+00	11	3.64E-05	110	3.64E-04	2.5 U	0.00E+00	540	3.05E-03
9/17/2012		9029	9029	360	2000	8.27E-03	8.0 U	0.00E+00	29	8.90E-05	8.0 U	0.00E+00	19	5.71E-05	42	1.26E-04	8.0 U	0.00E+00	190	9.77E-04
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9033	9033	220	1200	5.46E-03	4.4 U	0.00E+00	19	6.41E-05	4.4 U	0.00E+00	33	1.09E-04	8	2.65E-05	4.4 U	0.00E+00	55	3.11E-04
12/14/2012		9436	9436	200	1200	4.96E-03	4.8 U	0.00E+00	35	1.07E-04	4.8 U	0.00E+00	16	4.81E-05	37	1.11E-04	4.8 U	0.00E+00	61	3.14E-04
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9511	9511	440	70	6.37E-04	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00
4/11/2013		9952	9952	420	1600	1.39E-02	8	6.95E-05	160	1.03E-03	5.1 U	0.00E+00	20	1.26E-04	88	5.56E-04	5.1 U	0.00E+00	320	3.46E-03
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	1200	1.04E-02	5.4 U	0.00E+00												

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	1400	1.03E-02	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	350	1.80E-03
3/18/2011		362	362	360	1100	8.07E-03	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	210 U	0.00E+00	52 U	0.00E+00	120 JB	6.17E-04
3/25/2011		459	459	360	760	5.57E-03	30 U	0.00E+00	33	1.56E-04	30 U	0.00E+00	30 U	0.00E+00	120 U	0.00E+00	30 U	0.00E+00	73	3.75E-04
3/30/2011		553	553	360	420	3.08E-03	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	51 U	0.00E+00	13 U	0.00E+00	37	1.90E-04
4/8/2011		759	759	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	57	2.93E-04
4/15/2011		920	920	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	85	4.37E-04
5/19/2011		1681	1681	330	360	2.42E-03	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	120	5.66E-04
6/16/2011		2187	2187	300	180	1.10E-03	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	12	4.36E-05	7.8 U	0.00E+00
7/15/2011		2745	2745	220	280	1.25E-03	7.6 U	0.00E+00	20	5.79E-05	7.6 U	0.00E+00	7.6 U	0.00E+00	30 U	0.00E+00	7.6 U	0.00E+00	49	1.54E-04
8/22/2011		3129	3129	260	160	8.47E-04	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	20 U	0.00E+00	7.6	2.39E-05	5.0 U	0.00E+00
9/15/2011		3626	3626	220	83	3.72E-04	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	5	1.33E-05	4.5 U	0.00E+00
10/14/2011		4222	4222	220	50	2.24E-04	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	16 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00
11/21/2011	Dup	5015	5015	200	27	1.10E-04	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
11/21/2011		5015	5015	200	28	1.14E-04	3.1 U	0.00E+00	31 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	12 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00
12/14/2011		5339	5339	200	24	9.78E-05	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
1/19/2012		5958	5958	0	10	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00
2/15/2012		6364	6364	0	19	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00
3/15/2012		6942	6942	0	25	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00
4/19/2012		7625	7625	80	19	3.10E-05	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
5/16/2012		8138	8138	200	24	9.78E-05	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
Pulse-off period June 1, 2012 to August 14, 2012																				
8/14/2012		8541	8541	360	64	2.87E-04	2.5 U	0.00E+00	25 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	9.9 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00
9/17/2012		9029	9029	360	71	2.89E-04	8.0 U	0.00E+00	80 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	32 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00
Pulse-off period September 17, 2012 to November 15, 2012																				
11/15/2012		9033	9033	220	39	1.75E-04	4.4 U	0.00E+00	44 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	18 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00
12/14/2012		9436	9436	200	60	2.44E-04	4.8 U	0.00E+00	48 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	19 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00
Pulse-off period December 14, 2012 to February 26, 2013																				
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	27 U	0.00E+00	12	6.39E-05	6.8 U	0.00E+00
4/11/2013		9952	9952	420	110	9.41E-04	5.1 U	0.00E+00	51 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
Pulse-off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	79	6.76E-04	5.4 U	0.00E+00	54 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	22 U	0.00E+00	5.			

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)			
3/11/2011	Dup	218	218	360	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	420 U	0.00E+00	3.47E-01	75.54	
3/18/2011		362	362	360	52 U	0.00E+00	59	3.50E-04	110	6.52E-04	210 U	0.00E+00	210 U	0.00E+00	2.03E-01	104.77	
3/25/2011		459	459	360	30 U	0.00E+00	30 U	0.00E+00	47	2.79E-04	130	4.21E-04	120 U	0.00E+00	1.42E-01	118.53	
3/30/2011		553	553	360	16	9.48E-05	23	1.36E-04	46	2.73E-04	99	3.21E-04	51 U	0.00E+00	8.47E-02	126.48	
4/8/2011		759	759	360	38	2.25E-04	84	4.98E-04	120	7.11E-04	81 U	0.00E+00	81 U	0.00E+00	1.01E-01	147.32	
4/15/2011		920	920	360	45	2.67E-04	160	9.48E-04	140	8.30E-04	180 J,B	5.83E-04	81 U	0.00E+00	9.17E-02	162.08	
5/19/2011		1681	1681	330	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	360	1.07E-03	47 U	0.00E+00	9.44E-02	233.92	
6/16/2011		2187	2187	300	15	7.41E-05	54	2.67E-04	64	3.16E-04	69 J,B	1.86E-04	31 U	0.00E+00	3.49E-02	251.58	
7/15/2011		2745	2745	220	13	4.71E-05	120	4.35E-04	140	5.07E-04	94	1.86E-04	30 U	0.00E+00	3.23E-02	269.61	
8/22/2011		3129	3129	260	5.9	2.52E-05	19	8.13E-05	29	1.24E-04	62 J,B	1.45E-04	20 U	0.00E+00	2.71E-02	280.03	
9/15/2011		3626	3626	220	4.5 U	0.00E+00	14	5.07E-05	17	6.16E-05	49	9.71E-05	18 U	0.00E+00	1.47E-02	287.36	
10/14/2011		4222	4222	220	3.9 U	0.00E+00	7.1	2.57E-05	10	3.62E-05	16 U	0.00E+00	16 U	0.00E+00	1.03E-02	293.51	
11/21/2011		5015	5015	200	3.2 U	0.00E+00	4.5	1.48E-05	6.1	2.01E-05	36	6.48E-05	13 U	0.00E+00	6.19E-03	298.43	
11/21/2011		5015	5015	200	3.1 U	0.00E+00	4.2	1.38E-05	6.2	2.04E-05	31 U	0.00E+00	12 U	0.00E+00	6.30E-03	298.51	
12/14/2011		5339	5339	200	3.2 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	32 UJ	0.00E+00	13 U	0.00E+00	6.77E-03	300.62	
1/19/2012		5958	5958	0	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	0.00E+00	300.62	
2/15/2012		6364	6364	0	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	0.00E+00	300.62	
3/15/2012		6942	6942	0	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	0.00E+00	300.62	
4/19/2012		7625	7625	80	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	9.4 U	0.00E+00	1.51E-03	301.65	
5/16/2012		8138	8138	200	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	7.9 U	0.00E+00	3.90E-03	303.65	
Pulse -off period June 1, 2012 to August 14, 2012																	
8/14/2012		8541	8541	360	2.5 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	25 U	0.00E+00	9.9 U	0.00E+00	7.12E-03	306.52	
9/17/2012		9029	9029	360	8.0 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	80 U	0.00E+00	32 U	0.00E+00	9.81E-03	311.31	
Pulse -off period September 17, 2012 to November 15, 2012																	
11/15/2012		9033	9033	220	4.4 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	44 U	0.00E+00	18 U	0.00E+00	6.15E-03	311.34	
12/14/2012		9436	9436	200	4.8 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	48 U	0.00E+00	19 U	0.00E+00	5.79E-03	313.67	
Pulse -off period December 14, 2012 to February 26, 2013																	
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	27 U	0.00E+00	7.01E-04	313.72	
4/11/2013		9952	9952	420	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	51 U	0.00E+00	20 U	0.00E+00	2.01E-02	322.58	
Pulse -off period April 11, 2013 to May 10, 2013																	
5/10/2013		9958	9958	420	5.4 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	54 U	0.00E+00	22 U	0.00E+00	1.44E-02	322.66	
7/15/2013		10984	10984	360	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	1.65E-02	339.59	
Pulse -off period July 15, 2013 to September 9, 2013																	
9/9/2013		10991	10991	380	4 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	8.81E-03	339.65	
11/18/2013		12069	12069	380	7.6 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00	76 U	0.00E+00	31 U	0.00E+00	1.58E-02	356.69	

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		12074	12074	380	950	7.47E-03	3.5 U	0.00E+00	24	1.40E-04	3.5 U	0.00E+00	10	5.71E-05	23	1.31E-04	3.5 U	0.00E+00	82	8.01E-04
3/14/2014		13057	13057	380	1400	1.10E-02	7.8 U	0.00E+00	32	1.87E-04	7.8 U	0.00E+00	24	1.37E-04	88	5.03E-04	7.8 U	0.00E+00	30	2.93E-04
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		13063	13063	300	1000	6.20E-03	3.0 U	0.00E+00	20	9.21E-05	3.0 U	0.00E+00	14	6.31E-05	65	2.93E-04	3.0 U	0.00E+00	71	5.48E-04
7/23/2014		14714	14714	100	670	1.39E-03	2.2 U	0.00E+00	19	2.92E-05	2.2 U	0.00E+00	9.6	1.44E-05	12	1.80E-05	2.2 U	0.00E+00	47	1.21E-04
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14721	14715	120	470	1.17E-03	2.3 U	0.00E+00	10	1.84E-05	2.3 U	0.00E+00	4.8	8.66E-06	6.9	1.24E-05	2.3 U	0.00E+00	79	2.44E-04
11/14/2014		16095	16095	290	660	3.96E-03	2.4 U	0.00E+00	15	6.67E-05	2.4 U	0.00E+00	8.5	3.70E-05	19	8.28E-05	2.4 U	0.00E+00	32	2.39E-04
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16102	16102	180	360	1.34E-03	1.1 U	0.00E+00	4.6	1.27E-05	1.1 U	0.00E+00	4.0	1.08E-05	7.2	1.95E-05	1.1 U	0.00E+00	12	5.55E-05
3/13/2015		17322	17322	260	660	3.55E-03	2.4 U	0.00E+00	22	8.78E-05	2.4 U	0.00E+00	8.0	3.13E-05	16	6.25E-05	2.4 U	0.00E+00	29	1.94E-04
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17329	17329	260	360	1.94E-03	1.1 U	0.00E+00	7.3	2.91E-05	1.1 U	0.00E+00	2.5	9.77E-06	5.9	2.31E-05	1.1 U	0.00E+00	31	2.07E-04
7/16/2015		18578	18578	180	260	9.68E-04	1.2 U	0.00E+00	22	6.08E-05	1.2 U	0.00E+00	3.5	9.47E-06	12	3.25E-05	1.2 U	0.00E+00	54	2.50E-04
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		18580	18580	160	150	4.96E-04	1.2 U	0.00E+00	4.2	1.03E-05	1.2 U	0.00E+00	1.2	2.89E-06	2.4	5.77E-06	1.2 U	0.00E+00	47	1.93E-04
11/20/2015		19973	19973	230	320	1.52E-03	1.2 U	0.00E+00	26	9.17E-05	1.2 U	0.00E+00	5.5	1.90E-05	13	4.49E-05	1.2 U	0.00E+00	50	2.96E-04
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		19982	19982	180	78	2.90E-04	1.1 U	0.00E+00	1.9	5.25E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.52E-06	1.1 U	0.00E+00	10	4.63E-05
3/18/2016		21229	21229	260	340	1.83E-03	1.1 U	0.00E+00	21	8.38E-05	1.1 U	0.00E+00	5.4	2.11E-05	11	4.30E-05	1.1 U	0.00E+00	30	2.01E-04
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		21233	21233	140	100	2.90E-04	1.2 U	0.00E+00	2.9	6.23E-06	1.2 U	0.00E+00	1.4	2.95E-06	2.2	4.63E-06	1.2 U	0.00E+00	9.3	3.35E-05
7/22/2016		22751	22751	180	340	1.27E-03	1.0 U	0.00E+00	13	3.59E-05	1.0 U	0.00E+00	5.2	1.41E-05	8.5	2.30E-05	1.0 U	0.00E+00	40	1.85E-04
Pulse -off period July 22, 2016 to September 20, 2016																				
9/20/2016		22752	22752	180	160	5.96E-04	1.2 U	0.00E+00	3.4	9.39E-06	1.2 U	0.00E+00	1.8	4.87E-06	2.6	7.03E-06	1.2 U	0.00E+00	41	1.90E-04
11/28/2016		24305	24305	220	330	1.50E-03	1.2 U	0.00E+00	10	3.38E-05	1.2 U	0.00E+00	5.1	1.69E-05	8.3	2.74E-05	1.2 U	0.00E+00	13	7.35E-05
Pulse -off period November 28, 2016 to January 24, 2017																				
1/24/2017		24309	24309	190	52	2.04E-04	1.2 U	0.00E+00	1.4	4.08E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/23/2017		25572	25572	90	440	8.19E-04	2.4 U	0.00E+00	8.6	1.19E-05	2.4 U	0.00E+00	3.7	5.00E-06	9	1.22E-05	2.4 U	0.00E+00	9	2.08E-05

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse-off period November 18, 2013 to January 15, 2014																				
1/15/2014		12074	12074	380	37	2.86E-04	3.5 U	0.00E+00	35 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
3/14/2014		13057	13057	380	41	3.17E-04	7.8 U	0.00E+00	78 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00
Pulse-off period March 14, 2014 to May 15, 2014																				
5/15/2014		13063	13063	300	33	2.02E-04	3.0 U	0.00E+00	30 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
7/23/2014		14714	14714	100	14	2.85E-05	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00
Pulse-off period July 23, 2014 to September 16, 2014																				
9/16/2014		14721	14715	120	22	5.38E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.4 U	0.00E+00	6.4	9.30E-06	2.3 U	0.00E+00
11/14/2014		16095	16095	290	11	6.50E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.7 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse-off period November 14, 2014 to January 9, 2015																				
1/9/2015		16102	16102	180	4.9	1.80E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17322	17322	260	12	6.36E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse-off period March 13, 2015 to May 15, 2015																				
5/15/2015		17329	17329	260	8.2	4.34E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.4	5.20E-06
7/16/2015		18578	18578	180	14	5.13E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period July 16, 2015 to September 22, 2015																				
9/22/2015		18580	18580	160	11	3.59E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/20/2015		19973	19973	230	11	5.15E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period November 20, 2015 to January 19, 2016																				
1/19/2016		19982	19982	180	2	7.33E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21229	21229	260	8.5	4.50E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period March 18, 2016 to May 19, 2016																				
5/19/2016		21233	21233	140	2.1	5.99E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/22/2016		22751	22751	180	9.3	3.41E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
Pulse-off period July 22, 2016 to September 20, 2016																				
9/20/2016		22752	22752	180	10	3.67E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/28/2016		24305	24305	220	4.7	2.11E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period November 28, 2016 to January 24, 2017																				
1/24/2017		24309	24309	190	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/23/2017		25572	25572	90	4.6	8.43E-06	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		12074	12074	380	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	35 U	0.00E+00	14 U	0.00E+00	8.88E-03	356.73
3/14/2014		13057	13057	380	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	78 U	0.00E+00	31 U	0.00E+00	1.24E-02	368.96
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		13063	13063	300	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	30 U	0.00E+00	12 U	0.00E+00	7.40E-03	369.01
7/23/2014		14714	14714	100	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.60E-03	371.61
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14721	14715	120	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	32	3.46E-05	9.4 U	0.00E+00	1.55E-03	371.61
11/14/2014		16095	16095	290	2.4 U	0.00E+00	2.4 U	0.00E+00	2.8	1.34E-05	24 U	0.00E+00	9.7 U	0.00E+00	4.46E-03	377.77
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16102	16102	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.46E-03	377.78
3/13/2015		17322	17322	260	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	3.99E-03	382.64
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17329	17329	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	382.66
7/16/2015		18578	18578	180	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.37E-03	384.37
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015		18580	18580	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.45E-04	384.37
11/20/2015		19973	19973	230	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	2.03E-03	387.19
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016		19982	19982	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.53E-04	387.20
3/18/2016		21229	21229	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.22E-03	389.97
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016		21233	21233	140	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	3.43E-04	389.97
7/22/2016		22751	22751	180	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 J	0.00E+00	1.56E-03	392.33
Pulse -off period July 22, 2016 to September 20, 2016																
9/20/2016		22752	22752	180	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	8.43E-04	392.33
11/28/2016		24305	24305	220	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.67E-03	394.93
Pulse -off period November 28, 2016 to January 24, 2017																
1/24/2017		24309	24309	190	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	2.08E-04	394.94
3/23/2017		25572	25572	90	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	8.77E-04	396.04

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library of Medicine)

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

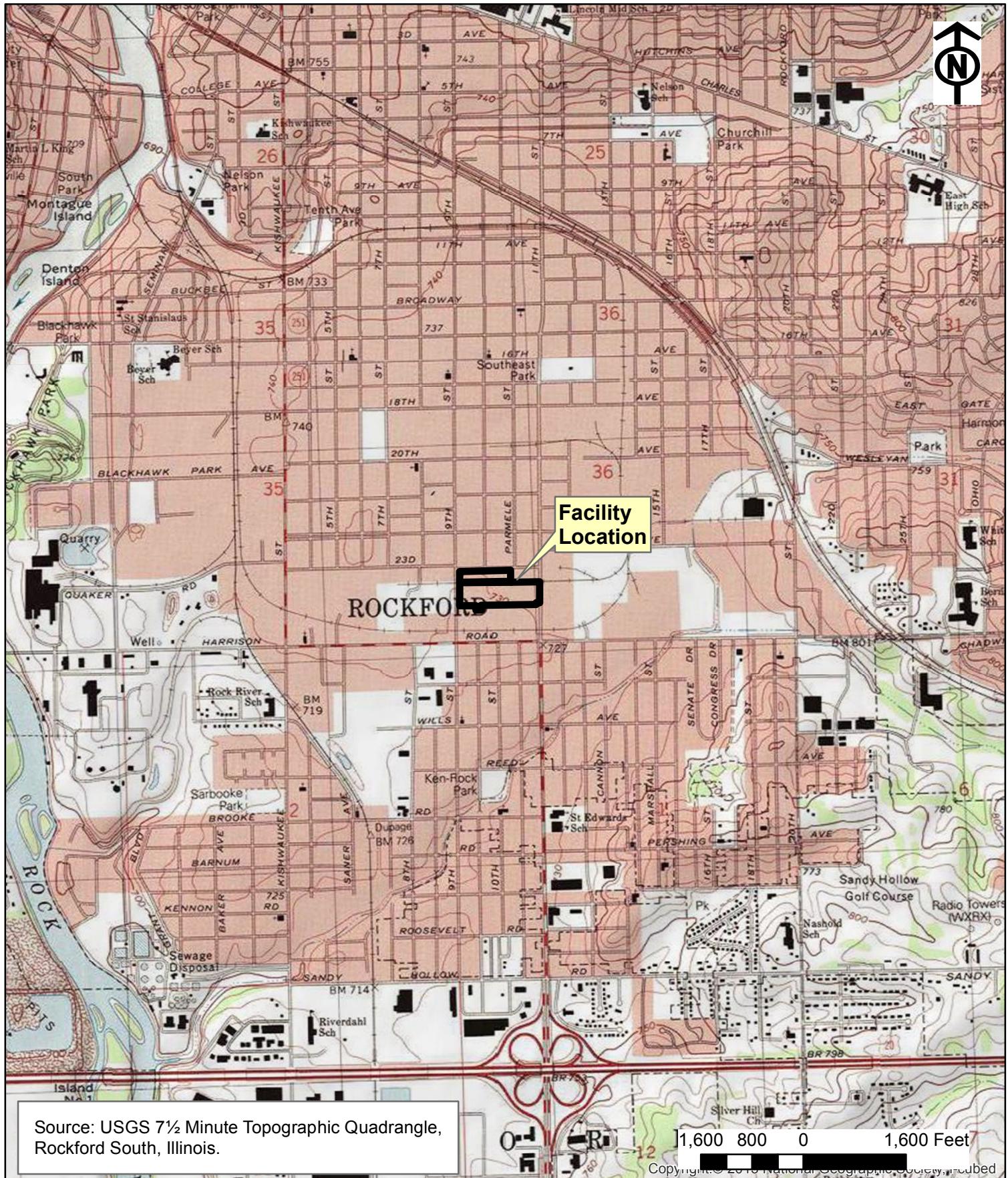
Table 4.6
Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
12/3/2009	0															0.00
12/10/2009	53	0.22	11.91													11.91
12/11/2009				59	0.25	15.05										26.97
12/14/2009							60	0.31	18.51							45.48
12/15/2009				68	0.16	16.48										46.91
12/16/2009							76	0.17	21.16							49.55
12/22/2009	124	0.05	15.23													52.86
12/29/2009				180	0.12	29.76										66.15
1/5/2010							236	0.13	41.78							86.77
1/13/2010				301	0.05	35.75										92.75
1/21/2010							361	0.05	48.37							99.35
1/27/2010				408	0.06	42.68										106.27
2/24/2010	631	0.01	20.06	631	0.04	51.44	631	0.04	58.76							130.26
3/15/2010	782	0.01	22.02	782	0.09	64.40	782	0.07	68.60							155.02
4/14/2010	935	0.02	25.22	935	0.04	70.89	935	0.11	84.81							180.92
5/13/2010	1165	0.01	27.75	1165	0.04	79.74	1165	0.03	91.21							198.69
6/21/2010	1477	0.01	30.20	1477	0.02	86.90	1477	0.02	96.92							214.02
7/21/2010	1686	0.01	32.52	1686	0.02	91.24	1686	0.02	101.05							224.81
8/23/2010	1928	0.00	32.52	1928	0.00	91.24	1928	0.00	101.05							224.81
9/23/2010	2174	0.01	34.49	2174	0.02	96.27	2174	0.02	106.49							237.25
10/22/2010	2406	0.01	35.86	2406	0.01	98.85	2406	0.01	109.27							243.98
11/15/2010	2598	0.01	36.96	2598	0.01	101.41	2598	0.01	112.05							250.42
12/22/2010	2777	0.01	38.22	2955	0.02	107.99	2777	0.02	115.44							261.65
1/24/2011	2975	0.01	39.47	3352	0.01	110.39	2975	0.01	117.20							267.06
2/25/2011	3167	0.01	40.53	3737	0.01	114.08	3167	0.00	118.15							272.76
3/11/2011										222	1.72	381.87	218	0.35	75.54	730.17
3/18/2011	3293	0.01	41.27	3988	0.00	114.57	3293	0.00	118.34	366	0.51	453.50	362	0.20	104.77	832.46
3/25/2011										463	0.29	482.07	459	0.14	118.53	874.78
3/30/2011										558	0.32	512.25	553	0.08	126.48	912.92
4/8/2011										764	0.29	572.27	759	0.10	147.32	993.77
4/15/2011	3460	0.01	42.15	4322	0.00	115.07	3460	0.00	118.47	924	0.24	610.05	920	0.09	162.08	1047.81
5/19/2011	3665	0.00	42.87	4732	0.00	115.31	3665	0.00	118.53	1685	0.16	730.28	1681	0.09	233.92	1240.92
6/16/2011	3830	0.00	43.39	5062	0.00	115.55	3830	0.00	118.81	2191	0.11	753.86	2187	0.03	251.58	1283.20
7/15/2011	4472	0.00	44.96	4472	0.00	115.18	4472	0.00	119.39	2750	0.08	830.85	2745	0.03	269.61	1380.36
8/22/2011	4775	0.00	45.59	4775	0.00	115.40	4775	0.01	121.30	3133	0.10	868.97	3129	0.03	280.03	1431.44
9/15/2011	4968	0.00	45.93	4968	0.00	115.51	4968	0.00	121.91	3630	0.08	906.88	3626	0.01	287.36	1477.64
10/14/2011	5199	0.00	46.20	5199	0.00	115.57	5199	0.00	122.54	4226	0.05	935.35	4222	0.01	293.51	1513.18
11/21/2011	5503	0.00	46.43	5503	0.00	115.62	5503	0.00	123.00	5019	0.04	966.50	5015	0.01	298.43	1549.98
12/14/2011	5670	0.00	46.53	5670	0.00	115.65	5670	0.00	123.67	5343	0.03	975.34	5339	0.01	300.62	1561.80
1/19/2012	5974	0.00	46.69	5974	0.00	115.71	5974	0.00	124.59	5993	0.00	975.34	5958	0.00	300.62	1562.94
2/15/2012	6189	0.00	46.80	6189	0.00	115.74	6189	0.01	126.03	6368	0.03	986.48	6364	0.00	300.62	1575.67
3/15/2012	6421	0.00	46.89	6421	0.00	115.79	6421	0.01	127.43	6946	0.03	1005.89	6942	0.00	300.62	1596.62
4/19/2012	6701	0.00	47.04	6701	0.00	115.84	6701	0.00	128.02	7629	0.05	1038.74	7625	0.00	301.65	1631.30
5/16/2012	6916	0.00	47.18	6916	0.00	115.88	6916	0.00	128.27	8143	0.04	1060.30	8138	0.00	303.65	1655.28

Table 4.6
Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - March 2017
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012	7094	0.00	47.54	7094	0.00	116.20	7094	0.00	129.03	8546	0.05	1081.05	8541	0.01	306.52	1680.34
9/17/2012	7317	0.00	47.99	7317	0.00	116.40	7317	0.02	133.04	9033	0.04	1102.58	9029	0.01	311.31	1711.33
Pulse -off period September 17, 2012 to November 14, 2012																
11/15/2012	7320	0.00	48.00	7320	0.00	116.40	7320	0.00	133.05	9037	0.05	1102.78	9033	0.01	311.34	1711.56
12/14/2012	7518	0.00	48.24	7518	0.00	116.86	7518	0.00	133.94	9439	0.00	1103.57	9436	0.01	313.67	1716.27
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013	7518	0.00	48.19	7518	0.00	116.86	7519	0.00	133.94	9439	0.00	1103.57	9511	0.00	313.72	1716.32
4/11/2013	7723	0.00	48.32	7723	0.00	116.97	8134	0.00	134.40	9876	0.00	1105.48	9952	0.02	322.58	1727.74
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013	7724	0.00	48.32	7724	0.00	116.97	8135	0.00	134.40	9882	0.00	1105.50	9958	0.01	322.66	1727.85
7/15/2013	8039	0.00	48.86	8039	0.00	117.21	9082	0.00	134.70	10907	0.00	1108.40	10984	0.02	339.59	1748.76
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013	8040	0.00	48.86	8040	0.00	117.21	9083	0.00	134.70	10914	0.00	1108.44	10991	0.01	339.65	1748.86
11/18/2013	8372	0.00	49.15	8372	0.00	117.30	10081	0.00	136.08	11992	0.00	1110.90	12069	0.02	356.69	1770.12
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014	8651	0.00	49.36	8651	0.00	117.51	10916	0.00	136.88	11997	0.00	1110.91	12074	0.01	356.73	1771.39
3/14/2014	8894	0.00	49.48	8894	0.00	117.52	11645	0.00	137.13	12980	0.00	1112.65	13057	0.01	368.96	1785.75
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014	8990	0.00	49.54	8990	0.00	117.64	11934	0.00	137.98	12986	0.00	1112.67	13063	0.01	369.01	1786.83
7/23/2014	9321	0.00	50.01	9321	0.00	117.79	12926	0.00	138.52	14627	0.00	1113.02	14714	0.00	371.61	1790.95
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014	9494	0.00	50.32	9494	0.00	118.05	13445	0.00	139.28	14628	0.00	1113.03	14715	0.00	371.61	1792.29
11/14/2014	9777	0.00	50.45	9777	0.00	118.12	14294	0.00	139.95	16008	0.00	1116.04	16095	0.00	377.77	1802.33
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015	9778	0.00	50.45	9778	0.00	118.12	14299	0.00	139.96	16015	0.00	1116.05	16102	0.00	377.78	1802.36
3/13/2015	10045	0.00	50.56	10045	0.00	118.15	15099	0.00	140.58	17178	0.00	1117.32	17322	0.00	382.64	1809.25
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015	10046	0.00	50.56	10046	0.00	118.15	15102	0.00	140.58	17186	0.00	1117.34	17329	0.00	382.66	1809.28
7/16/2015	10343	0.00	50.92	10343	0.00	118.25	15992	0.00	141.23	18436	0.00	1121.16	18578	0.00	384.37	1815.93
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015	10343	0.00	50.92	10343	0.00	118.26	15994	0.00	141.24	18439	0.00	1121.16	18580	0.00	384.37	1815.95
11/20/2015	10626	0.00	51.03	10626	0.00	118.33	16842	0.00	141.50	19832	0.00	1126.63	19973	0.00	387.19	1824.68
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016	10627	0.00	51.03	10627	0.00	118.33	16846	0.00	141.50	19841	0.00	1126.63	19982	0.00	387.20	1824.70
3/18/2016	10883	0.00	51.14	10883	0.00	118.36	17612	0.00	141.72	21088	0.00	1128.65	21229	0.00	389.97	1829.83
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016	10884	0.00	51.14	10884	0.00	118.36	17615	0.00	141.72	21092	0.00	1128.65	21233	0.00	389.97	1829.84
7/22/2016	111															

Figures



AECOM

AECOM
4320 WINFIELD ROAD
WARRENVILLE, ILLINOIS 60555
PHONE: (630) 829-2464
FAX: (630) 657-6305
WEB: [HTTP://WWW.AECOM.COM](http://WWW.AECOM.COM)

Facility Location Map
Area 9/10 Remedial Action
Southeast Rockford Groundwater
Contamination Superfund Site
Rockford, IL

FIGURE NUMBER

1

DRAWN BY:	DATE:	PROJECT NUMBER:	FIGURE NUMBER
BKR	4/28/2017	60532451.4212	1 of 1



LEGEND:

- GMZ Monitoring Well
- Performance Monitoring Well
- Site and GMZ Boundary
- Approximate Extent of Phase 1 AS/SVE System Influence
- Approximate Extent of Phase 2 AS/SVE System Influence

60 0 120
1" = 120'





LEGEND:

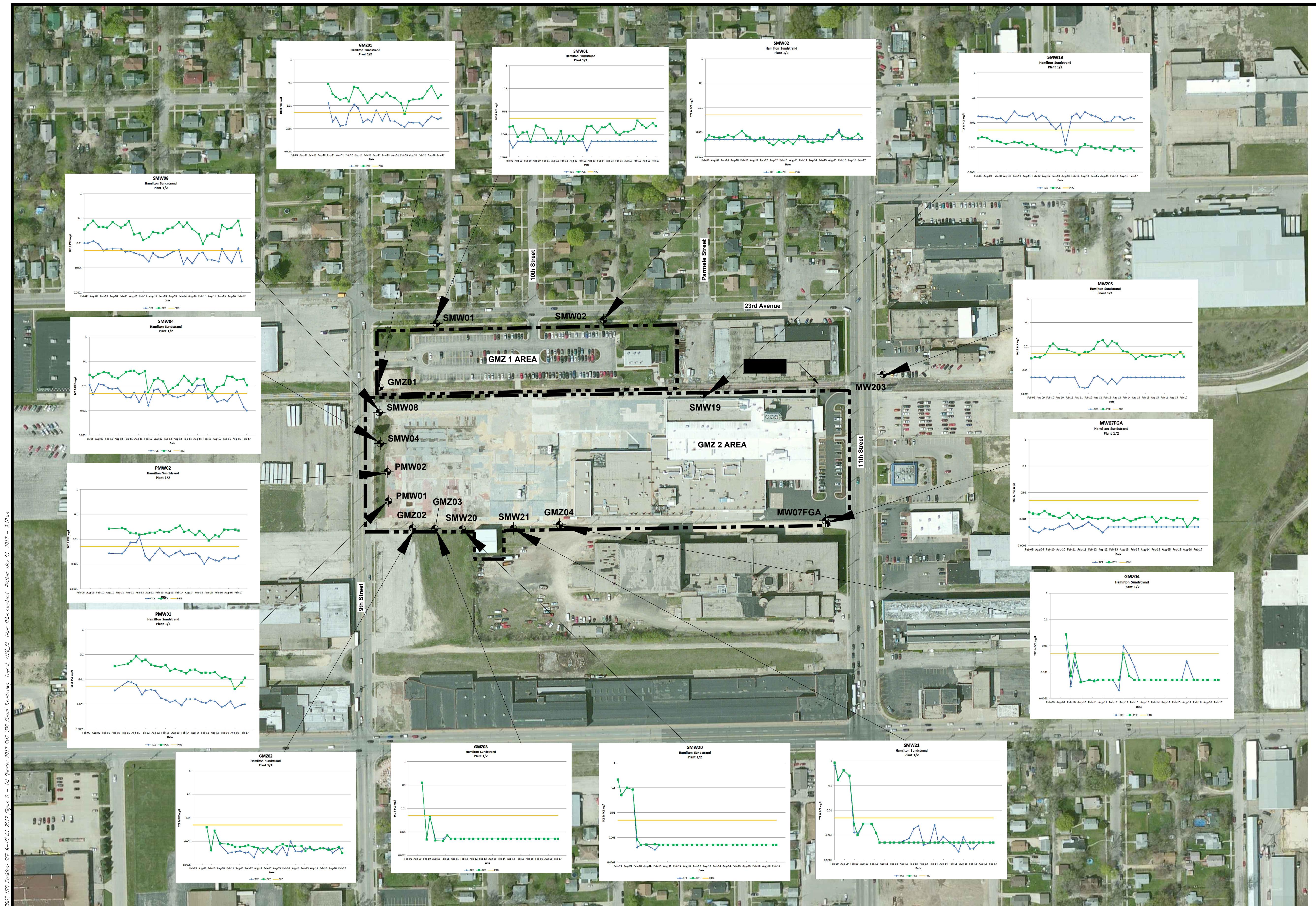
- GMZ Monitoring Well
- Site and GMZ Boundary

NOTES:

- Values are listed only for those wells in which a Volatile Organic Compound (VOC) was identified above the Preliminary Remediation Goal (PRG) for the previous four events.

2. mg/L milligrams per liter

Preliminary Remediation Goals (PRG)	
Trichloroethene (TCE)	0.005 mg/L
cis-1,2-Dichloroethene (DCE)	0.07 mg/L
1,1,1-Trichloroethane (TCA)	0.2 mg/L
Tetrachloroethene (PCE)	0.005 mg/L
Vinyl chloride	0.002 mg/L



AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60532451.4212

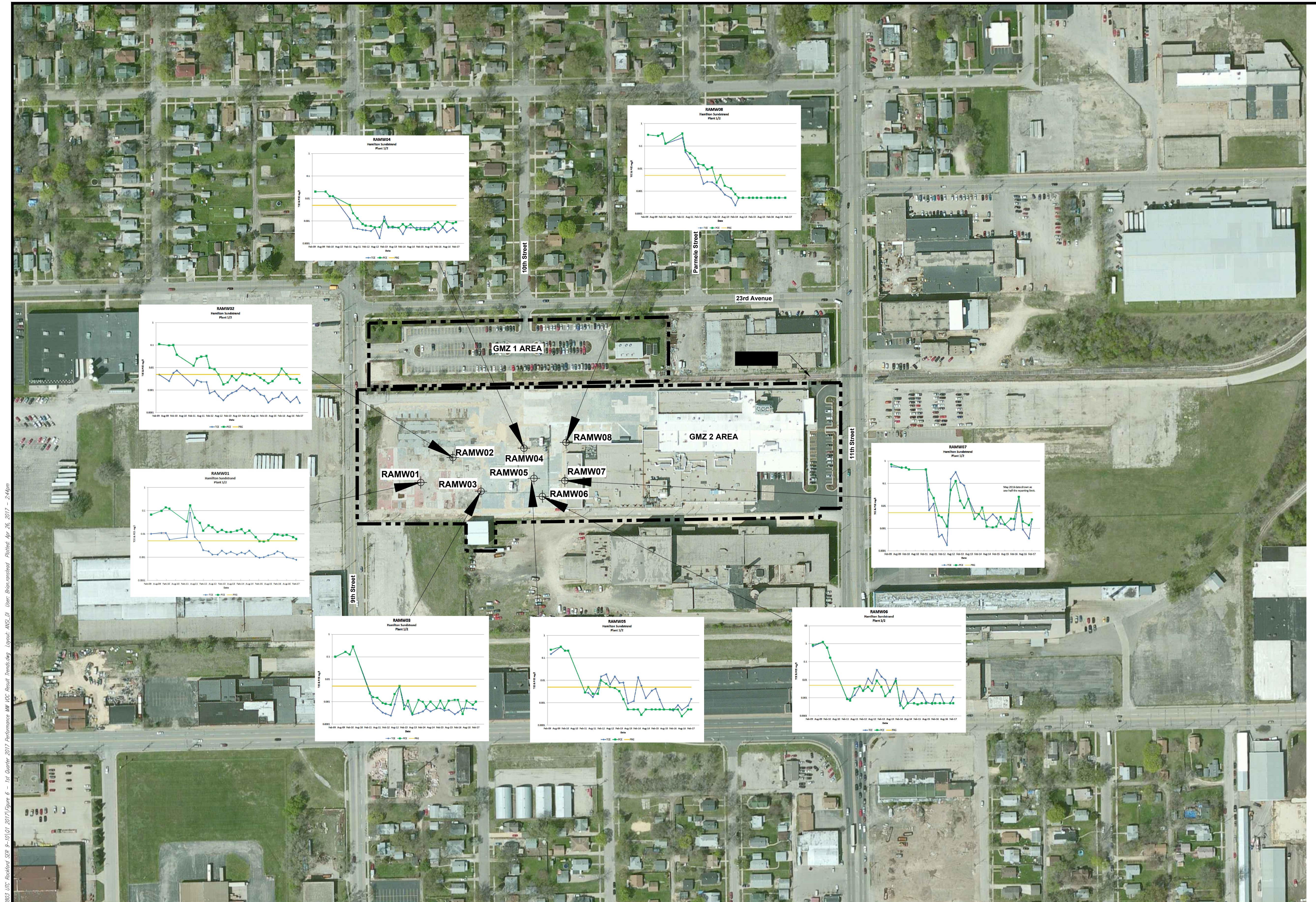
AECOM

QUARTERLY GMZ VOC
ANALYTICAL RESULTS TRENDS

DATE: 04/28/17

DRWN: BKR

FIGURE 5



AECOM

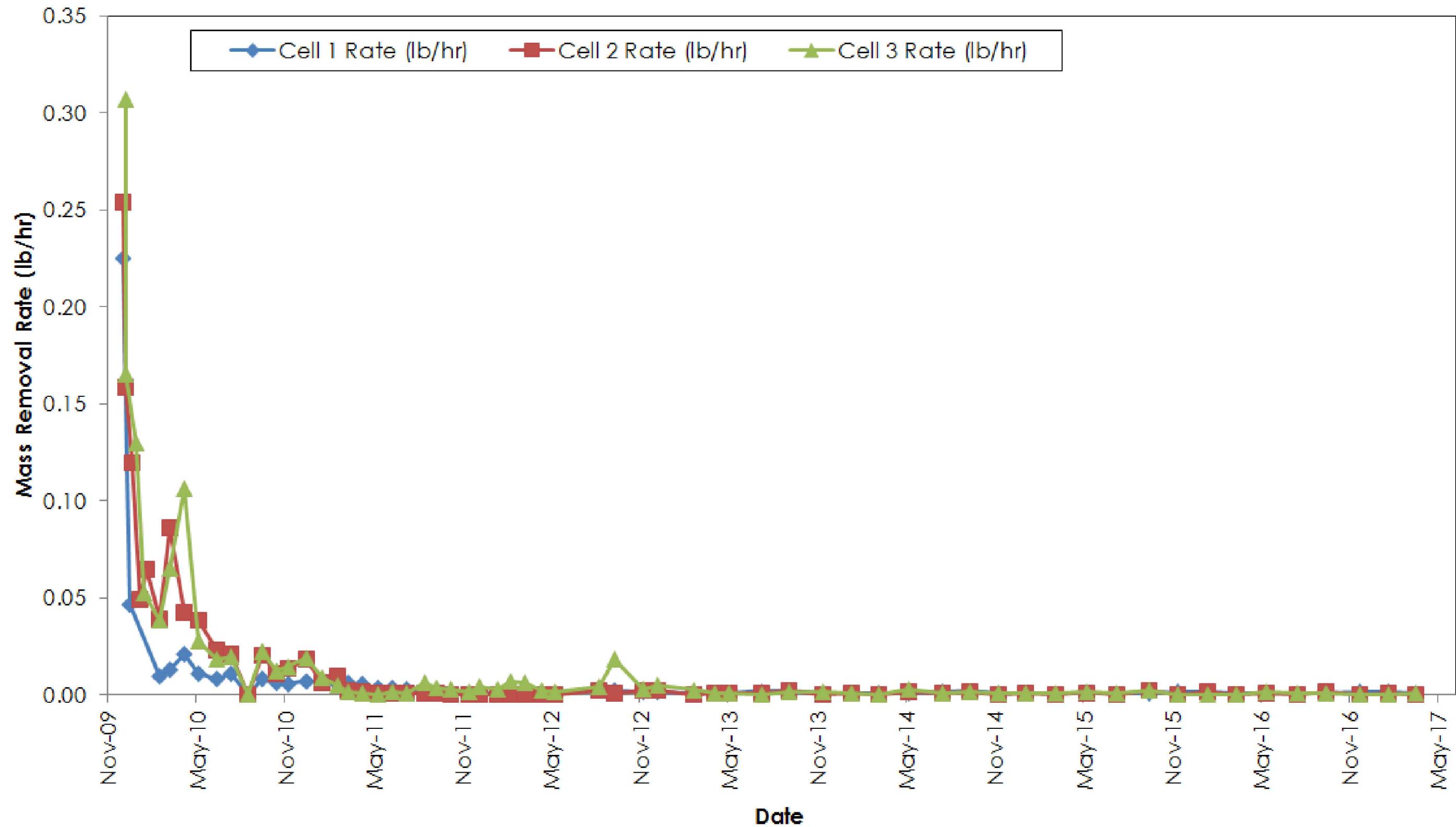
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60532451.4212

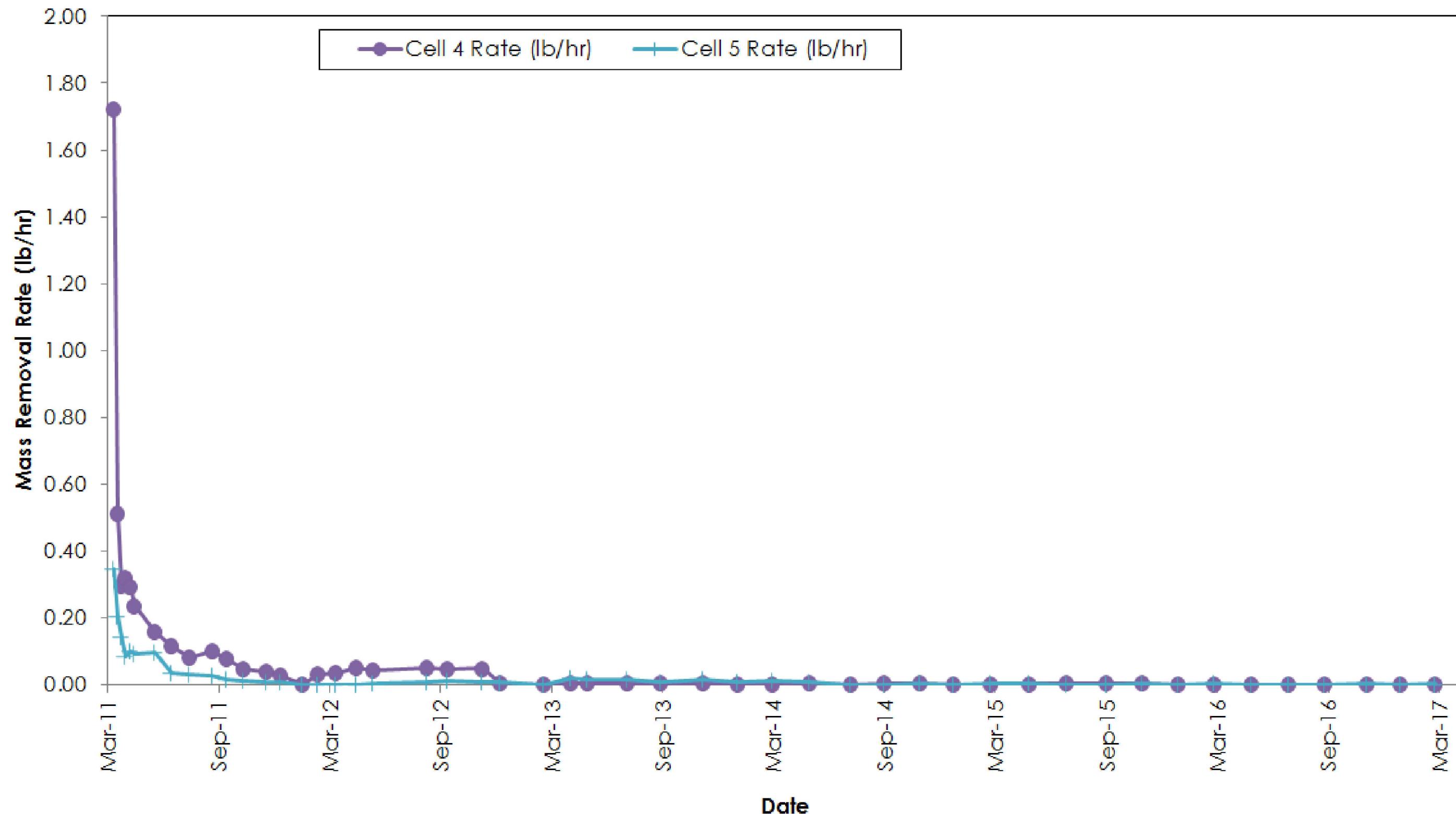
DATE: 4/28/17

DRWN: BKR

QUARTERLY PERFORMANCE
MONITORING WELL VOC
ANALYTICAL RESULTS TRENDS

FIGURE 6





AECOM

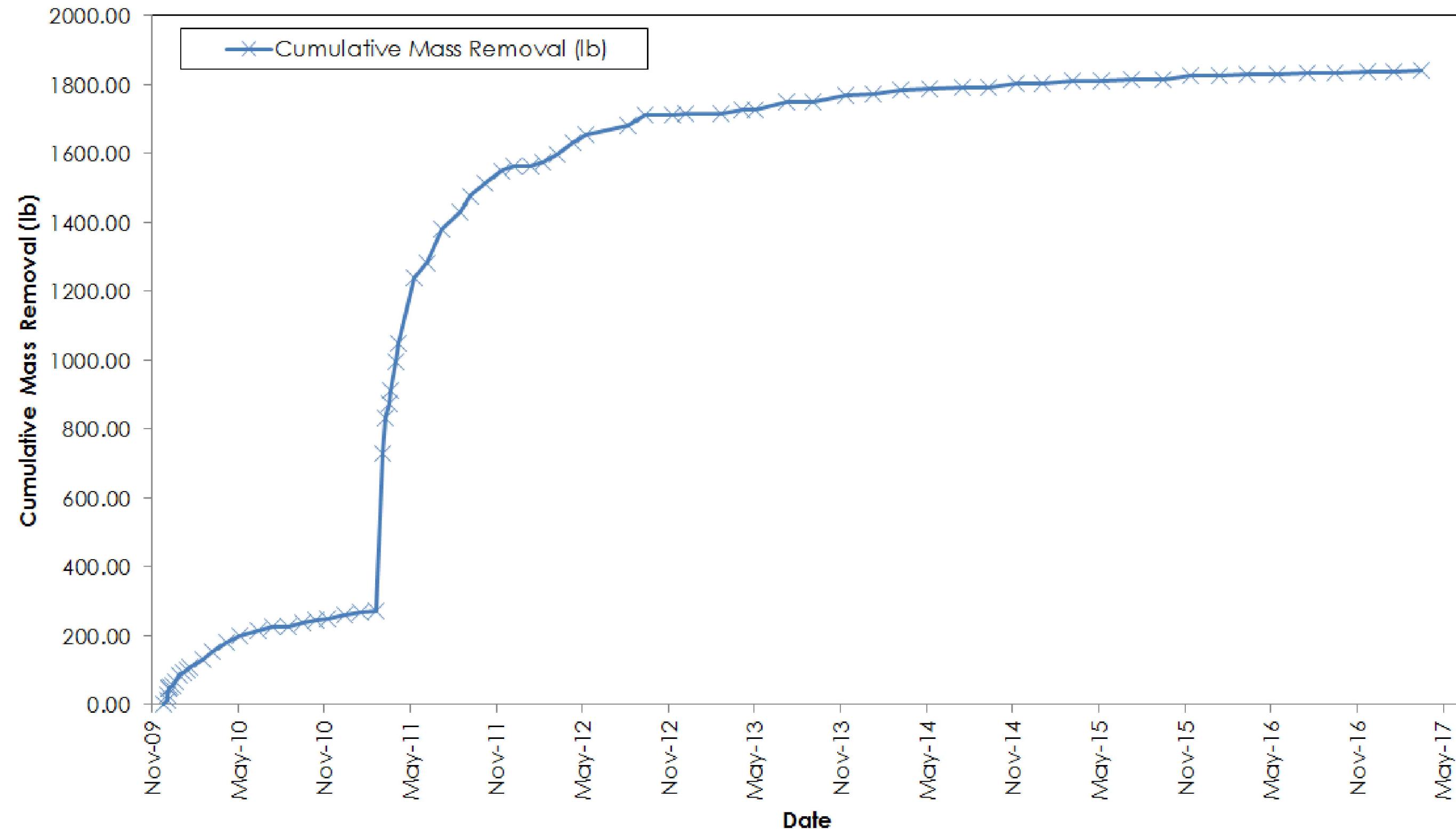
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60532451.4212

AVERAGE VOC MASS REMOVAL RATE
VS TIME PHASE 2 AS/SVE SYSTEM

DATE: 04/28/17

DRWN: BKR

FIGURE 8



AECOM

AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60532451.4212

CUMULATIVE MASS REMOVAL
PHASE 1/ PHASE 2 AS/SVE SYSTEM

DATE: 04/28/17 DRWN: BKR

FIGURE 9

Appendix A

First Quarter 2017 GMZ and Performance Monitoring Well Analytical Data



ACCUTEST

New Jersey

Reissue #1
02/28/17

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



e-Hardcopy 2.0
Automated Report

Technical Report for

United Technologies Corporation

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
60532451

SGS Accutest Job Number: **JC37024**

Sampling Dates: 02/06/17 - 02/08/17



Report to:

AECOM, INC.
4320 Winfield Road
Warrenville, IL 60555
peter.hollatz@aecom.com

ATTN: Peter Hollatz

Total number of pages in report: 248



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Kelly Patterson 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.



ACCUTEST

February 28, 2017

Mr. Peter Hollatz
AECOM, INC.
4320 Winfield Road
Warrenville, IL 60555

Re: SGS Accutest –Dayton, Jobs # JC37024 – Reissues

Dear Mr. Hollatz,

The final report for SGS Accutest job number JC37024 has edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, samples ID for JC37024-3 thru -8 (-8D, -8S), -10, -11, and -12 have been revised to match chain of custody. This information has been retrieved and is included in this revised report.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact client services at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely,

Kelly Ramos
SGS Accutest

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION,
TESTING AND CERTIFICATION COMPANY.

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Sample Summary

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID	
JC37024-1	02/06/17	13:10 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW08-020617
JC37024-2	02/06/17	14:50 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW07-020617
JC37024-3	02/07/17	09:25 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW06-020717
JC37024-4	02/07/17	10:55 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW05-020717
JC37024-5	02/07/17	11:15 AH	02/10/17	AQ	Equipment Blank	HSSEN-EBLK02-020717
JC37024-6	02/07/17	12:20 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW04-020717
JC37024-7	02/07/17	13:50 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW03-020717
JC37024-8	02/07/17	14:55 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW02-020717
JC37024-8D	02/07/17	14:55 AH	02/10/17	AQ	Water Dup/MSD	HSSEN-MSD02-020717
JC37024-8S	02/07/17	14:55 AH	02/10/17	AQ	Water Matrix Spike	HSSEN-MS02-020717
JC37024-9	02/07/17	00:00 AH	02/10/17	AQ	Ground Water	HSSEN-DUP02-020717
JC37024-10	02/08/17	08:00 AH	02/10/17	AQ	Field Blank Water	HSSEN-FBLK02-020817
JC37024-11	02/08/17	09:00 AH	02/10/17	AQ	Ground Water	HSSEN-RAMW01-020817



Sample Summary

(continued)

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID
JC37024-12	02/08/17	09:00 AH	02/10/17	AQ Trip Blank Water	HSSER-TRIP02-020617

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: United Technologies Corporation **Job No** JC37024
Site: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL **Report Date** 2/21/2017 4:51:58 PM

On 02/10/2017, 9 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) and 1 Equipment Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC37024 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ	Batch ID: V4B2850
-------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37024-8MS, JC37024-8MSD were used as the QC samples indicated.

Matrix: AQ	Batch ID: V4B2853
-------------------	--------------------------

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37024-3MS, JC37024-4DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for 1,1-Dichloroethene are outside control limits for sample JC37024-4DUP. High RPD due to possible sample analyzed from different vials.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Page 1 of 2

Job Number: JC37024

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC37024-1 HSSER-RAMW08-020617						
1,1-Dichloroethane	0.00026 J	0.0010	0.00021	mg/l	SW846 8260C	
JC37024-2 HSSER-RAMW07-020617						
1,1-Dichloroethane	0.0383	0.0050	0.0010	mg/l	SW846 8260C	
1,1-Dichloroethene	0.0317	0.0050	0.0010	mg/l	SW846 8260C	
cis-1,2-Dichloroethene	0.0683	0.0050	0.0015	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.906	0.0050	0.0011	mg/l	SW846 8260C	
JC37024-3 HSSER-RAMW06-020717						
1,1-Dichloroethane	0.0031	0.0010	0.00021	mg/l	SW846 8260C	
1,1-Dichloroethene	0.0061	0.0010	0.00020	mg/l	SW846 8260C	
cis-1,2-Dichloroethene	0.0114	0.0010	0.00031	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.155	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.0011	0.0010	0.00026	mg/l	SW846 8260C	
JC37024-4 HSSER-RAMW05-020717						
1,1-Dichloroethane	0.0030	0.0010	0.00021	mg/l	SW846 8260C	
1,1-Dichloroethene	0.0015	0.0010	0.00020	mg/l	SW846 8260C	
cis-1,2-Dichloroethene	0.0072	0.0010	0.00031	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0702	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.0015	0.0010	0.00026	mg/l	SW846 8260C	
JC37024-5 HSSER-EBLK02-020717						
No hits reported in this sample.						
JC37024-6 HSSER-RAMW04-020717						
1,1-Dichloroethane	0.00057 J	0.0010	0.00021	mg/l	SW846 8260C	
Tetrachloroethene	0.00089 J	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.00054 J	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.00037 J	0.0010	0.00026	mg/l	SW846 8260C	
JC37024-7 HSSER-RAMW03-020717						
1,1-Dichloroethane	0.00054 J	0.0010	0.00021	mg/l	SW846 8260C	
Tetrachloroethene	0.00098 J	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.00042 J	0.0010	0.00026	mg/l	SW846 8260C	

Summary of Hits

Job Number: JC37024

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
--------------------------	------------------	-----------------	----	-----	-------	--------

JC37024-8 HSSER-RAMW02-020717

1,1-Dichloroethane	0.0018	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0021	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00027 J	0.0010	0.00026	mg/l	SW846 8260C

JC37024-9 HSSER-DUP02-020717

1,1-Dichloroethane	0.00058 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0010	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00045 J	0.0010	0.00026	mg/l	SW846 8260C

JC37024-10 HSSER-FBLK02-020817

No hits reported in this sample.

JC37024-11 HSSER-RAMW01-020817

1,1-Dichloroethane	0.00054 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0060	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0017	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00075 J	0.0010	0.00026	mg/l	SW846 8260C

JC37024-12 HSSER-TRIP02-020617

No hits reported in this sample.



ACCUTEST
New Jersey

Section 4

4

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Page 1 of 1

Client Sample ID:	HSSER-RAMW08-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37024-1	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69264.D	1	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00026	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.1

4

SGS Accutest

Report of Analysis

Page 1 of 1

4.2
4

Client Sample ID:	HSSER-RAMW07-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37024-2	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69266.D	5	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0383	0.0050	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0050	0.0020	mg/l	
75-35-4	1,1-Dichloroethene	0.0317	0.0050	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0683	0.0050	0.0015	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0050	0.0018	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	0.00098	mg/l	
75-09-2	Methylene chloride	ND	0.010	0.0050	mg/l	
127-18-4	Tetrachloroethene	ND	0.0050	0.0012	mg/l	
108-88-3	Toluene	ND	0.0050	0.0011	mg/l	
71-55-6	1,1,1-Trichloroethane	0.906	0.0050	0.0011	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0050	0.0014	mg/l	
79-01-6	Trichloroethene	ND	0.0050	0.0013	mg/l	
75-01-4	Vinyl chloride	ND	0.0050	0.0016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	102%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW06-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-3	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69317.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0031	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.0061	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0114	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.155	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0011	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW05-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-4	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69318.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0030	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.0015	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0072	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0702	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0015	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID: HSSER-EBLK02-020717**Lab Sample ID:** JC37024-5**Date Sampled:** 02/07/17**Matrix:** AQ - Equipment Blank**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69325.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW04-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-6	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69319.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00057	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00089	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00054	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00037	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW03-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-7	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69320.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00054	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00098	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00042	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW02-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-8	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69263.D	1	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0018	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0021	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00027	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-DUP02-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37024-9	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69346.D	1	02/16/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00058	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0010	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00045	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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4**Client Sample ID:** HSSER-FBLK02-020817**Lab Sample ID:** JC37024-10**Date Sampled:** 02/08/17**Matrix:** AQ - Field Blank Water**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69326.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-RAMW01-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37024-11	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69347.D	1	02/16/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00054	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0060	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0017	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00075	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.11

4

SGS Accutest

Report of Analysis

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4.12
4**Client Sample ID:** HSSER-TRIP02-020617**Lab Sample ID:** JC37024-12**Date Sampled:** 02/08/17**Matrix:** AQ - Trip Blank Water**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69327.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms**Custody Documents and Other Forms**

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



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CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com



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FED-EX Tracking #	6780 9741 5239	Bottle Order Control #
SGS Accutest Quote #		
SGS Accutest Job #	JC37024	

Client / Reporting Information		Project Information								Requested Analysis (see TEST CODE sheet)						Matrix Codes		
Company Name ACCOM	Project Name: UTAS PLANTS 1/2 FACILITY																	
Street Address 4320 WINFIELD RD	Street																	
City State Zip WANDEENVILLE IL 60555	City State ROCKFORD IL																	
Project Contact PETER HOLLATZ/peter.hollatz@accomm.com	E-mail 630.918.9648																	
Phone #	Fax #																	
Sampler(s) Name(s) Nick Pins / Allan Hollatz	Phone #																	
Project Manager PETER HOLLATZ	Attention:																	
SGS Accutest Sample #	Field ID / Point of Collection	Collection			VOCs	Number of preserved Bottles												
		MEOH/DI Vial #	Date	Time		Sampled by	Matrix	# of bottles	HCl	NaOH	HNOS	H2SO4	None	Ni Water	MeOH	ENCORE		
1	HSSE1-RAMW08-020617		2/6/17	1310		AH	GW	3	3								X	
2	HSSE1-RAMW07-020617		2/6/17	1450		AH	GW	3	3								X	
3	HSSE1-RAMW06-020717		2/7/17	0925		AH	GW	3	3								X	
4	HSSE1-RAMW05-020717		2/7/17	1055		AH	GW	3	3								X	
5	HSSE1-EBLK02-020717		2/7/17	1115		AH	GW	3	3								X	
6	HSSE1-RAMW04-020717		2/7/17	1220		AH	GW	3	3								X	
7	HSSE1-RAMW03-020717		2/7/17	1350		AH	GW	3	3								X	
8	HSSE1-RAMW02-020717		2/7/17	1455		AH	GW	3	3								X	
9	HSSE1-MSD02-020717		2/7/17	1455		AH	GW	3	3								X	
10	HSSE1-MSD02-020717		2/7/17	1455		AH	GW	3	3								X	
11	HSSE1-DUP02-020717		2/7/17	0800	AH	GW	3	3								X		
12	HSSE1-FBLK02-020817		2/8/17	0800	AH	GW	3	3								X		
Turnaround Time (Business days)										Data Deliverable Information						Comments / Special Instructions		
2/12/17										Approved by (SGS Accutest PM): / Date:								
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> other										<input type="checkbox"/> Commercial "a" (Level 1) <input type="checkbox"/> NYASP Category A <input type="checkbox"/> Commercial "b"=Level 2 <input type="checkbox"/> NYASP Category B <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> State Forms <input type="checkbox"/> NJ Reduced <input type="checkbox"/> EDD Format _____ <input type="checkbox"/> Commercial "C" <input type="checkbox"/> Other _____ <input type="checkbox"/> NJ Data of Known Quality Protocol Reporting <small>Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data</small>						* LIST OF 13 VOCs LEVEL IV QC		
																Sample inventory is verified upon receipt in the Laboratory		

Sample Custody must be documented below each time samples change possession, including courier delivery.									
Relinquished by Sampler: 1 All-L-T² (ACCOM)	Date Time: 2/9/17 1400	Received By: 1	Relinquished By: 2	Date Time: 2/10/17 10:00	Received By: 2				
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4				
Relinquished by Sampler: 5	Date Time:	Received By: 5	Custody Seal # 96	Intact <input type="checkbox"/> Not Intact <input type="checkbox"/>	Preserved where applicable <input type="checkbox"/>	On Ice <input type="checkbox"/>	Cooler Temp. 3.2		

JC37024: Chain of Custody

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PAGE 2 OF 2

Client / Reporting Information		Project Information				Requested Analysis (see TEST CODE sheet)				Matrix Codes	
Company Name AECOM		Project Name: UTAS PLANTS 1/2 FACILITY									
Street Address 4320 WINFIELD RD		Street		Billing Information (if different from Report to)						DW - Drinking Water	
City WANDENVILLE IL	State 60555	City ROCKFORD IL	State IL					Company Name			
Project Contact PETER HOLLATZ/peter.hollatz@aecom.com		E-mail 630.918.9648	Project # 60532451	Street Address						SW - Surface Water	
Phone # 630.918.9648		Fax #	Client Purchase Order #	City		State		Zip		SO - Soil	
Sampler(s) Name(s) NICK DINS / ALAN HOLLATZ		Phone #	Project Manager PETER HOLLATZ	Attention:						SL - Sludge	
SGS Assigned Sample #	Field ID / Point of Collection		Collection			# of bottles	Number of preserved Bottles			VOCs	SED - Sediment
			Date 13/11/17	Time 0900	Sampled by AH		HCl	NaOH	HNO3		
13/11/17	Field ID / Point of Collection	MEOH/DI Vial #	2/1/17	0900	AH	GW	3	3			X
14/11/17	Field ID / Point of Collection	MEOH/DI Vial #	2/1/17	-	-	GW	2	2			X
Turnaround Time (Business days)		Data Deliverable Information				Comments / Special Instructions					
Approved by (SGS Accutest PM)/ Date:		<input type="checkbox"/> Commercial "a" (Level 1) <input type="checkbox"/> Commercial "b" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ Data of Known Quality Protocol Reporting <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other				* LIST OF 13 VOCs LEVEL IV QC					
Emergency & Rush T/A data available VIA Lablink:		Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data				Sample inventory is verified upon receipt in the Laboratory					
Sample Custody must be documented below each time samples change possession, including courier delivery.											
Relinquished by Sampler: 1 NLL F (AECOM)	Date/Time: 2/1/17 1400	Received By: 1	Relinquished By: 2	Date/Time: 2/1/17 1000	Received By: 2	Preserved where applicable		On Ice	Cooler Temp		
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4						
Relinquished by Sampler: 5	Date/Time:	Received By: 5	Custody Seal #	Intact	Not Intact						

JC37024: Chain of Custody

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SGS Accutest Sample Receipt Summary

Job Number: JC37024 Client: _____ Project: _____
 Date / Time Received: 2/10/2017 10:00:00 AM Delivery Method: _____ Airbill #'s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

<u>Cooler Security</u>	<u>Y or N</u>	<u>Y or N</u>	<u>Sample Integrity - Documentation</u>	<u>Y or N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
<u>Cooler Temperature</u>	<u>Y or N</u>		<u>Sample Integrity - Condition</u>	<u>Y or N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>		1. Sample rcvd within HT:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification:	IR Gun		2. All containers accounted for:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Cooler media:	Ice (Bag)		3. Condition of sample:	Intact
4. No. Coolers:	1			
<u>Quality Control Preservation</u>	<u>Y or N</u>	<u>N/A</u>	<u>Sample Integrity - Instructions</u>	<u>Y or N</u> <u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		1. Analysis requested is clear:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		2. Bottles received for unspecified tests	<input type="checkbox"/> <input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/> <input type="checkbox"/>		3. Sufficient volume rcvd for analysis:	<input checked="" type="checkbox"/> <input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		4. Compositing instructions clear:	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
			5. Filtering instructions clear:	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

Comments

SM089-02
Rev. Date 12/1/16

JC37024: Chain of Custody

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5.1

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37024-1	Collected: 06-FEB-17 13:10 By: AH HSSER-RAMW08-020617			Received: 10-FEB-17	By: HY	
JC37024-1	SW846 8260C	14-FEB-17 11:59	HT			V8260SL
JC37024-2	Collected: 06-FEB-17 14:50 By: AH HSSER-RAMW07-020617			Received: 10-FEB-17	By: HY	
JC37024-2	SW846 8260C	14-FEB-17 12:55	HT			V8260SL
JC37024-3	Collected: 07-FEB-17 09:25 By: AH HSSER-RAMW06-020717			Received: 10-FEB-17	By: HY	
JC37024-3	SW846 8260C	15-FEB-17 14:25	HT			V8260SL
JC37024-4	Collected: 07-FEB-17 10:55 By: AH HSSER-RAMW05-020717			Received: 10-FEB-17	By: HY	
JC37024-4	SW846 8260C	15-FEB-17 14:53	HT			V8260SL
JC37024-5	Collected: 07-FEB-17 11:15 By: AH HSSER-EBLK02-020717			Received: 10-FEB-17	By: HY	
JC37024-5	SW846 8260C	15-FEB-17 18:15	HT			V8260SL
JC37024-6	Collected: 07-FEB-17 12:20 By: AH HSSER-RAMW04-020717			Received: 10-FEB-17	By: HY	
JC37024-6	SW846 8260C	15-FEB-17 15:24	HT			V8260SL
JC37024-7	Collected: 07-FEB-17 13:50 By: AH HSSER-RAMW03-020717			Received: 10-FEB-17	By: HY	
JC37024-7	SW846 8260C	15-FEB-17 15:52	HT			V8260SL
JC37024-8	Collected: 07-FEB-17 14:55 By: AH HSSER-RAMW02-020717			Received: 10-FEB-17	By: HY	
JC37024-8	SW846 8260C	14-FEB-17 11:28	HT			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37024-9	HSSEN-DUP02-020717	Collected: 07-FEB-17 00:00 By: AH		Received: 10-FEB-17	By: HY	
JC37024-9	SW846 8260C	16-FEB-17 03:18	HT			V8260SL
JC37024-10	HSSEN-FBLK02-020817	Collected: 08-FEB-17 08:00 By: AH		Received: 10-FEB-17	By: HY	
JC37024-10	SW846 8260C	15-FEB-17 18:43	HT			V8260SL
JC37024-11	HSSEN-RAMW01-020817	Collected: 08-FEB-17 09:00 By: AH		Received: 10-FEB-17	By: HY	
JC37024-11	SW846 8260C	16-FEB-17 03:46	HT			V8260SL
JC37024-12	HSSEN-TRIP02-020617	Collected: 08-FEB-17 09:00 By: AH		Received: 10-FEB-17	By: HY	
JC37024-12	SW846 8260C	15-FEB-17 19:11	HT			V8260SL

SGS Accutest Internal Chain of Custody

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Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

5.3

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-1.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-1.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-1.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-1.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-2.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-2.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-2.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-2.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-3.1	Secured Storage	Toan Pham	02/15/17 15:20	Retrieve from Storage
JC37024-3.1	Toan Pham	GCMS4B	02/15/17 15:20	Load on Instrument
JC37024-3.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-3.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-3.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-3.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-3.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-3.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-3.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-3.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-3.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-3.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-4.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-4.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-4.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-4.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-4.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-4.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-4.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-4.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-4.2	Secured Storage	Toan Pham	02/15/17 15:20	Retrieve from Storage
JC37024-4.2	Toan Pham	GCMS4B	02/15/17 15:20	Load on Instrument
JC37024-4.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-4.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-5.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-5.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-5.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-5.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-5.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-5.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument

SGS Accutest Internal Chain of Custody

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Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-5.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-5.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-6.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-6.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-6.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-6.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-6.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-6.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-6.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-6.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-7.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-7.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-7.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-7.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-7.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-7.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-7.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-7.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-8.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-8.3	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.3	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.3	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.3	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-8.5	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.5	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.5	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.5	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-9.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-9.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-9.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-9.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-9.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-9.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-9.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-9.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage

SGS Accutest Internal Chain of Custody

Page 3 of 3

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-10.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-10.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-10.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-10.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-10.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-10.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-10.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-10.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-11.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-11.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-11.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-11.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-11.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-11.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-11.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-11.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-12.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-12.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-12.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-12.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-12.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-12.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-12.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-12.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage

GC/MS Volatiles**QC Data Summaries**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2850-MB	4B69260.D	1	02/14/17	HT	n/a	n/a	V4B2850

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102%
17060-07-0	1,2-Dichloroethane-D4	76-120%
2037-26-5	Toluene-D8	105%
460-00-4	4-Bromofluorobenzene	73-122%
		101%
		84-119%
		102%
		78-117%

Method Blank Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-MB	4B69314.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-10, JC37024-12

6.1.2
6

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103%
17060-07-0	1,2-Dichloroethane-D4	104%
2037-26-5	Toluene-D8	100%
460-00-4	4-Bromofluorobenzene	104%

Method Blank Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-MB2	4B69335.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37024-9, JC37024-11

6.1.3
6

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102%
17060-07-0	1,2-Dichloroethane-D4	104%
2037-26-5	Toluene-D8	99%
460-00-4	4-Bromofluorobenzene	101%

Blank Spike Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2850-BS	4B69261.D	1	02/14/17	HT	n/a	n/a	V4B2850

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	51.0	102	79-124
107-06-2	1,2-Dichloroethane	50	52.0	104	81-127
75-35-4	1,1-Dichloroethene	50	52.3	105	69-136
156-59-2	cis-1,2-Dichloroethene	50	53.4	107	79-118
156-60-5	trans-1,2-Dichloroethene	50	50.5	101	73-125
100-41-4	Ethylbenzene	50	49.4	99	84-115
75-09-2	Methylene chloride	50	50.7	101	75-122
127-18-4	Tetrachloroethene	50	48.0	96	70-134
108-88-3	Toluene	50	49.4	99	84-117
71-55-6	1,1,1-Trichloroethane	50	53.2	106	83-134
79-00-5	1,1,2-Trichloroethane	50	50.4	101	84-119
79-01-6	Trichloroethene	50	53.1	106	84-120
75-01-4	Vinyl chloride	50	47.0	94	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-BS	4B69315.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	49.1	98	79-124
107-06-2	1,2-Dichloroethane	50	51.0	102	81-127
75-35-4	1,1-Dichloroethene	50	49.0	98	69-136
156-59-2	cis-1,2-Dichloroethene	50	51.2	102	79-118
156-60-5	trans-1,2-Dichloroethene	50	49.3	99	73-125
100-41-4	Ethylbenzene	50	48.1	96	84-115
75-09-2	Methylene chloride	50	50.5	101	75-122
127-18-4	Tetrachloroethene	50	48.8	98	70-134
108-88-3	Toluene	50	48.1	96	84-117
71-55-6	1,1,1-Trichloroethane	50	53.7	107	83-134
79-00-5	1,1,2-Trichloroethane	50	51.9	104	84-119
79-01-6	Trichloroethene	50	52.3	105	84-120
75-01-4	Vinyl chloride	50	44.2	88	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	101%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37024-3MS	4B69322.D	1	02/15/17	HT	n/a	n/a	V4B2853
JC37024-3	4B69317.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

CAS No.	Compound	JC37024-3		Spike	MS	MS	Limits
		ug/l	Q	ug/l	ug/l	%	
75-34-3	1,1-Dichloroethane	3.1	50	47.6	89	71-131	
107-06-2	1,2-Dichloroethane	ND	50	47.8	96	72-135	
75-35-4	1,1-Dichloroethene	6.1	50	45.1	78	57-149	
156-59-2	cis-1,2-Dichloroethene	11.4	50	58.9	95	59-134	
156-60-5	trans-1,2-Dichloroethene	ND	50	44.0	88	64-134	
100-41-4	Ethylbenzene	ND	50	48.0	96	48-143	
75-09-2	Methylene chloride	ND	50	44.1	88	69-127	
127-18-4	Tetrachloroethene	ND	50	48.3	97	55-144	
108-88-3	Toluene	ND	50	46.9	94	61-136	
71-55-6	1,1,1-Trichloroethane	155	50	201	92	70-147	
79-00-5	1,1,2-Trichloroethane	ND	50	50.0	100	78-122	
79-01-6	Trichloroethene	1.1	50	51.8	101	62-141	
75-01-4	Vinyl chloride	ND	50	41.0	82	44-136	

CAS No.	Surrogate Recoveries	MS	JC37024-3	Limits
1868-53-7	Dibromofluoromethane	102%	101%	76-120%
17060-07-0	1,2-Dichloroethane-D4	99%	103%	73-122%
2037-26-5	Toluene-D8	99%	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	102%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37024-8MS	4B69267.D	1	02/14/17	HT	n/a	n/a	V4B2850
JC37024-8MSD	4B69268.D	1	02/14/17	HT	n/a	n/a	V4B2850
JC37024-8	4B69263.D	1	02/14/17	HT	n/a	n/a	V4B2850

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	JC37024-8		Spike	MS	MS	Spike	MSD	MSD	RPD	Limits Rec/RPD
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l	%		
75-34-3	1,1-Dichloroethane	1.8	50	49.5	95	50	46.9	90	5	5	71-131/12
107-06-2	1,2-Dichloroethane	ND	50	46.6	93	50	44.8	90	4	4	72-135/11
75-35-4	1,1-Dichloroethene	ND	50	44.0	88	50	43.6	87	1	1	57-149/14
156-59-2	cis-1,2-Dichloroethene	ND	50	49.5	99	50	47.3	95	5	5	59-134/11
156-60-5	trans-1,2-Dichloroethene	ND	50	47.6	95	50	44.9	90	6	6	64-134/12
100-41-4	Ethylbenzene	ND	50	47.5	95	50	45.9	92	3	3	48-143/11
75-09-2	Methylene chloride	ND	50	45.0	90	50	44.0	88	2	2	69-127/12
127-18-4	Tetrachloroethene	2.1	50	48.8	93	50	47.5	91	3	3	55-144/12
108-88-3	Toluene	ND	50	47.4	95	50	45.3	91	5	5	61-136/11
71-55-6	1,1,1-Trichloroethane	1.3	50	55.5	108	50	52.9	103	5	5	70-147/13
79-00-5	1,1,2-Trichloroethane	ND	50	45.6	91	50	44.0	88	4	4	78-122/10
79-01-6	Trichloroethene	0.27	J	50	51.7	103	50	49.1	98	5	62-141/11
75-01-4	Vinyl chloride	ND	50	47.9	96	50	47.4	95	1	1	44-136/16

CAS No.	Surrogate Recoveries	MS	MSD	JC37024-8	Limits
1868-53-7	Dibromofluoromethane	103%	102%	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	105%	73-122%
2037-26-5	Toluene-D8	101%	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	101%	102%	78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37024-4DUP	4B69324.D	1	02/15/17	HT	n/a	n/a	V4B2853
JC37024-4	4B69318.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

CAS No.	Compound	JC37024-4		Q	RPD	Limits
		ug/l	ug/l			
75-34-3	1,1-Dichloroethane	3.0	2.9	3	20	
107-06-2	1,2-Dichloroethane	ND	ND	nc	20	
75-35-4	1,1-Dichloroethene	1.5	2.9	64* a	20	
156-59-2	cis-1,2-Dichloroethene	7.2	7.1	1	20	
156-60-5	trans-1,2-Dichloroethene	ND	ND	nc	20	
100-41-4	Ethylbenzene	ND	ND	nc	20	
75-09-2	Methylene chloride	ND	ND	nc	20	
127-18-4	Tetrachloroethene	ND	ND	nc	20	
108-88-3	Toluene	ND	ND	nc	20	
71-55-6	1,1,1-Trichloroethane	70.2	65.0	8	20	
79-00-5	1,1,2-Trichloroethane	ND	ND	nc	20	
79-01-6	Trichloroethene	1.5	1.5	0	20	
75-01-4	Vinyl chloride	ND	ND	nc	20	

CAS No.	Surrogate Recoveries	DUP	JC37024-4	Limits
1868-53-7	Dibromofluoromethane	101%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	104%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	103%	102%	78-117%

(a) High RPD due to possible sample analyzed from different vials.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-BFB
Lab File ID: 4B68755.D
Instrument ID: GCMS4B

Injection Date: 01/27/17
Injection Time: 11:04

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21258	19.0	Pass
75	30.0 - 60.0% of mass 95	50882	45.5	Pass
95	Base peak, 100% relative abundance	111944	100.0	Pass
96	5.0 - 9.0% of mass 95	7433	6.64	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	113464	101.4	Pass
175	5.0 - 9.0% of mass 174	8642	7.72	(7.62) ^a Pass
176	95.0 - 101.0% of mass 174	110720	98.9	(97.6) ^a Pass
177	5.0 - 9.0% of mass 176	7242	6.47	(6.54) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2825-IC2825	4B68756.D	01/27/17	11:39	00:35	Initial cal 2
V4B2825-IC2825	4B68757.D	01/27/17	12:07	01:03	Initial cal 20
V4B2825-ICC2825	4B68758.D	01/27/17	12:35	01:31	Initial cal 50
V4B2825-IC2825	4B68759.D	01/27/17	13:03	01:59	Initial cal 200
V4B2825-IC2825	4B68762.D	01/27/17	14:30	03:26	Initial cal 0.2
V4B2825-IC2825	4B68763.D	01/27/17	14:58	03:54	Initial cal 0.5
V4B2825-IC2825	4B68764.D	01/27/17	15:26	04:22	Initial cal 1
V4B2825-IC2825	4B68765.D	01/27/17	15:57	04:53	Initial cal 5
V4B2825-IC2825	4B68766.D	01/27/17	16:25	05:21	Initial cal 10
V4B2825-IC2825	4B68767.D	01/27/17	16:53	05:49	Initial cal 100
V4B2825-ICV2825	4B68770.D	01/27/17	18:19	07:15	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2828-BFB	Injection Date:	01/30/17
Lab File ID:	4B68829.D	Injection Time:	22:20
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21741	20.2	Pass
75	30.0 - 60.0% of mass 95	51608	47.9	Pass
95	Base peak, 100% relative abundance	107738	100.0	Pass
96	5.0 - 9.0% of mass 95	6993	6.49	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	102328	95.0	Pass
175	5.0 - 9.0% of mass 174	7984	7.41	(7.80) ^a Pass
176	95.0 - 101.0% of mass 174	99685	92.5	(97.4) ^a Pass
177	5.0 - 9.0% of mass 176	6688	6.21	(6.71) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2828-IC2825	4B68832.D	01/31/17	00:21	02:01	Initial cal 5
V4B2828-IC2825	4B68833.D	01/31/17	00:49	02:29	Initial cal 10
V4B2828-IC2825	4B68834.D	01/31/17	01:20	03:00	Initial cal 20
V4B2828-IC2825	4B68835.D	01/31/17	01:48	03:28	Initial cal 50
V4B2828-IC2825	4B68836.D	01/31/17	02:16	03:56	Initial cal 100
V4B2828-IC2825	4B68837.D	01/31/17	02:44	04:24	Initial cal 200
V4B2828-ICV2825	4B68840.D	01/31/17	04:10	05:50	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2850-BFB	Injection Date:	02/14/17
Lab File ID:	4B69257.D	Injection Time:	08:15
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	20909	19.6	Pass
75	30.0 - 60.0% of mass 95	50851	47.6	Pass
95	Base peak, 100% relative abundance	106819	100.0	Pass
96	5.0 - 9.0% of mass 95	7414	6.94	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	103765	97.1	Pass
175	5.0 - 9.0% of mass 174	8490	7.95	(8.18) ^a Pass
176	95.0 - 101.0% of mass 174	102467	95.9	(98.7) ^a Pass
177	5.0 - 9.0% of mass 176	6810	6.38	(6.65) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2850-CC2825	4B69259.D	02/14/17	09:31	01:16	Continuing cal 20
V4B2850-MB	4B69260.D	02/14/17	10:03	01:48	Method Blank
V4B2850-BS	4B69261.D	02/14/17	10:32	02:17	Blank Spike
ZZZZZZ	4B69262.D	02/14/17	11:00	02:45	(unrelated sample)
JC37024-8	4B69263.D	02/14/17	11:28	03:13	HSSER-RAMW02-020717
JC37024-1	4B69264.D	02/14/17	11:59	03:44	HSSER-RAMW08-020617
ZZZZZZ	4B69265.D	02/14/17	12:27	04:12	(unrelated sample)
JC37024-2	4B69266.D	02/14/17	12:55	04:40	HSSER-RAMW07-020617
JC37024-8MS	4B69267.D	02/14/17	13:23	05:08	Matrix Spike
JC37024-8MSD	4B69268.D	02/14/17	13:52	05:37	Matrix Spike Duplicate
ZZZZZZ	4B69270.D	02/14/17	14:50	06:35	(unrelated sample)
ZZZZZZ	4B69271.D	02/14/17	15:18	07:03	(unrelated sample)
ZZZZZZ	4B69272.D	02/14/17	15:47	07:32	(unrelated sample)
ZZZZZZ	4B69273.D	02/14/17	16:15	08:00	(unrelated sample)
ZZZZZZ	4B69274.D	02/14/17	16:45	08:30	(unrelated sample)
V4B2851-MB	4B69277.D	02/14/17	18:10	09:55	Method Blank
ZZZZZZ	4B69278.D	02/14/17	18:39	10:24	(unrelated sample)
ZZZZZZ	4B69279.D	02/14/17	19:09	10:54	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2853-BFB	Injection Date:	02/15/17
Lab File ID:	4B69309.D	Injection Time:	10:32
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21845	19.2	Pass
75	30.0 - 60.0% of mass 95	53389	46.9	Pass
95	Base peak, 100% relative abundance	113928	100.0	Pass
96	5.0 - 9.0% of mass 95	7443	6.53	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	111691	98.0	Pass
175	5.0 - 9.0% of mass 174	8908	7.82	(7.98) ^a Pass
176	95.0 - 101.0% of mass 174	109496	96.1	(98.0) ^a Pass
177	5.0 - 9.0% of mass 176	7377	6.48	(6.74) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2853-CC2825	4B69310.D	02/15/17	11:00	00:28	Continuing cal 20
V4B2853-CC2825	4B69311.D	02/15/17	11:28	00:56	Continuing cal 20
V4B2853-CC2825	4B69312.D	02/15/17	12:02	01:30	Continuing cal 0.5
V4B2853-CC2825	4B69313.D	02/15/17	12:30	01:58	Continuing cal 1
V4B2853-MB	4B69314.D	02/15/17	13:01	02:29	Method Blank
V4B2853-BS	4B69315.D	02/15/17	13:29	02:57	Blank Spike
JC37024-3	4B69317.D	02/15/17	14:25	03:53	HSSER-RAMW06-020717
JC37024-4	4B69318.D	02/15/17	14:53	04:21	HSSER-RAMW05-020717
JC37024-6	4B69319.D	02/15/17	15:24	04:52	HSSER-RAMW04-020717
JC37024-7	4B69320.D	02/15/17	15:52	05:20	HSSER-RAMW03-020717
ZZZZZZ	4B69321.D	02/15/17	16:21	05:49	(unrelated sample)
JC37024-3MS	4B69322.D	02/15/17	16:49	06:17	Matrix Spike
JC37024-4DUP	4B69324.D	02/15/17	17:47	07:15	Duplicate
JC37024-5	4B69325.D	02/15/17	18:15	07:43	HSSER-EBLK02-020717
JC37024-10	4B69326.D	02/15/17	18:43	08:11	HSSER-FBLK02-020817
JC37024-12	4B69327.D	02/15/17	19:11	08:39	HSSER-TRIP02-020617
V4B2854-MB	4B69328.D	02/15/17	19:39	09:07	Method Blank
ZZZZZZ	4B69329.D	02/15/17	20:10	09:38	(unrelated sample)
ZZZZZZ	4B69330.D	02/15/17	20:38	10:06	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2853-BFB2	Injection Date:	02/15/17
Lab File ID:	4B69332.D	Injection Time:	21:06
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21128	19.4	Pass
75	30.0 - 60.0% of mass 95	51659	47.5	Pass
95	Base peak, 100% relative abundance	108789	100.0	Pass
96	5.0 - 9.0% of mass 95	7098	6.52	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	108499	99.7	Pass
175	5.0 - 9.0% of mass 174	8196	7.53	(7.55) ^a Pass
176	95.0 - 101.0% of mass 174	105749	97.2	(97.5) ^a Pass
177	5.0 - 9.0% of mass 176	6721	6.18	(6.36) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2853-CC2825	4B69333.D	02/15/17	21:35	00:29	Continuing cal 50
V4B2853-MB2	4B69335.D	02/15/17	22:03	00:57	Method Blank
ZZZZZZ	4B69336.D	02/15/17	22:33	01:27	(unrelated sample)
ZZZZZZ	4B69337.D	02/15/17	23:01	01:55	(unrelated sample)
ZZZZZZ	4B69339.D	02/15/17	23:57	02:51	(unrelated sample)
ZZZZZZ	4B69341.D	02/16/17	00:56	03:50	(unrelated sample)
ZZZZZZ	4B69342.D	02/16/17	01:24	04:18	(unrelated sample)
ZZZZZZ	4B69343.D	02/16/17	01:52	04:46	(unrelated sample)
ZZZZZZ	4B69344.D	02/16/17	02:20	05:14	(unrelated sample)
ZZZZZZ	4B69345.D	02/16/17	02:48	05:42	(unrelated sample)
JC37024-9	4B69346.D	02/16/17	03:18	06:12	HSSER-DUP02-020717
JC37024-11	4B69347.D	02/16/17	03:46	06:40	HSSER-RAMW01-020817
ZZZZZZ	4B69348.D	02/16/17	04:15	07:09	(unrelated sample)

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2850-CC2825	Injection Date:	02/14/17
Lab File ID:	4B69259.D	Injection Time:	09:31
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	114841	6.80	278708	8.84	387691	9.71
Upper Limit ^a	229682	7.30	557416	9.34	775382	10.21
Lower Limit ^b	57421	6.30	139354	8.34	193846	9.21

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2850-MB	135137	6.81	297050	8.84	409174	9.71
V4B2850-BS	104899	6.81	279071	8.84	390421	9.71
ZZZZZZ	127725	6.81	307314	8.84	418074	9.71
JC37024-8	121965	6.81	306190	8.84	420100	9.71
JC37024-1	107157	6.81	295550	8.84	405249	9.71
ZZZZZZ	119060	6.81	298735	8.84	412073	9.71
JC37024-2	114356	6.81	293956	8.84	398678	9.71
JC37024-8MS	118522	6.81	273295	8.84	378063	9.71
JC37024-8MSD	121924	6.81	275465	8.84	380325	9.72
ZZZZZZ	128094	6.81	301515	8.84	408333	9.71
ZZZZZZ	120689	6.81	299602	8.84	412207	9.71
ZZZZZZ	113886	6.81	293405	8.84	406026	9.71
ZZZZZZ	113755	6.81	279224	8.84	393427	9.72
ZZZZZZ	99298	6.80	281422	8.84	391328	9.71
V4B2851-MB	135236	6.81	288378	8.84	401039	9.71
ZZZZZZ	133729	6.81	282270	8.84	395806	9.71
ZZZZZZ	130581	6.81	279876	8.84	392109	9.71

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2853-CC2825	Injection Date:	02/15/17
Lab File ID:	4B69310.D	Injection Time:	11:00
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	140656	6.81	302122	8.84	418432	9.71
Upper Limit ^a	281312	7.31	604244	9.34	836864	10.21
Lower Limit ^b	70328	6.31	151061	8.34	209216	9.21

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2853-MB	163222	6.81	321124	8.84	435996	9.71
V4B2853-BS	127260	6.81	289957	8.84	403716	9.72
JC37024-3	152264	6.81	318906	8.84	430236	9.71
JC37024-4	148693	6.81	314387	8.84	426371	9.72
JC37024-6	145206	6.81	312078	8.84	425068	9.72
JC37024-7	158322	6.81	313143	8.84	426870	9.72
ZZZZZZ	168007	6.81	292749	8.84	405175	9.71
JC37024-3MS	150539	6.80	297447	8.84	409812	9.71
JC37024-4DUP	131349	6.81	321802	8.84	436440	9.71
JC37024-5	141227	6.81	320491	8.84	436295	9.71
JC37024-10	145086	6.81	317985	8.84	434774	9.72
JC37024-12	149870	6.81	314594	8.84	433507	9.71
V4B2854-MB	153760	6.81	315880	8.84	433956	9.71
ZZZZZZ	143871	6.81	299558	8.84	411642	9.72
ZZZZZZ	149665	6.81	301737	8.84	417977	9.71

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2853-CC2825	Injection Date:	02/15/17
Lab File ID:	4B69333.D	Injection Time:	21:35
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	126845	6.80	278579	8.84	397084	9.71
Upper Limit ^a	253690	7.30	557158	9.34	794168	10.21
Lower Limit ^b	63423	6.30	139290	8.34	198542	9.21
					185980	12.41
					113085	15.48

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2853-MB2	157896	6.81	314371	8.84	429481	9.71
ZZZZZZ	133362	6.81	303385	8.84	411872	9.71
ZZZZZZ	160905	6.81	299488	8.84	407295	9.71
ZZZZZZ	142826	6.81	306283	8.84	420842	9.71
ZZZZZZ	126428	6.80	292784	8.84	393666	9.72
ZZZZZZ	147741	6.81	316329	8.84	425864	9.71
ZZZZZZ	156974	6.81	317927	8.84	438236	9.71
ZZZZZZ	145245	6.81	313244	8.84	435325	9.71
ZZZZZZ	142375	6.82	313133	8.84	430763	9.71
JC37024-9	144189	6.81	307779	8.84	423773	9.71
JC37024-11	149081	6.81	301342	8.84	413837	9.71
ZZZZZZ	140167	6.81	294466	8.84	401879	9.71
					388752	12.91
					223739	15.48

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC37024-1	4B69264.D	101	103	100	105
JC37024-2	4B69266.D	102	102	102	104
JC37024-3	4B69317.D	101	103	101	102
JC37024-4	4B69318.D	103	104	101	102
JC37024-5	4B69325.D	103	105	101	102
JC37024-6	4B69319.D	101	105	100	103
JC37024-7	4B69320.D	102	106	100	103
JC37024-8	4B69263.D	102	105	101	102
JC37024-9	4B69346.D	102	106	100	104
JC37024-10	4B69326.D	102	104	99	102
JC37024-11	4B69347.D	104	109	101	103
JC37024-12	4B69327.D	103	106	99	102
JC37024-3MS	4B69322.D	102	99	99	101
JC37024-4DUP	4B69324.D	101	100	100	103
JC37024-8MS	4B69267.D	103	99	101	101
JC37024-8MSD	4B69268.D	102	98	100	101
V4B2850-BS	4B69261.D	103	103	100	102
V4B2850-MB	4B69260.D	102	105	101	102
V4B2853-BS	4B69315.D	104	101	99	101
V4B2853-MB	4B69314.D	103	104	100	104
V4B2853-MB2	4B69335.D	102	104	99	101

Surrogate Compounds

Recovery Limits

S1 = Dibromofluoromethane

76-120%

S2 = 1,2-Dichloroethane-D4

73-122%

S3 = Toluene-D8

84-119%

S4 = 4-Bromofluorobenzene

78-117%

6.8.1
6

Initial Calibration Summary

Page 1 of 6

Job Number: JC37024**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report MS4B

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Calibration Files

1	=4B68764.D	0.5	=4B68763.D	100	=4B68767.D	50	=4B68758.D
20	=4B68757.D	200	=4B68759.D	5	=4B68765.D	2	=4B68756.D
10	=4B68766.D	0.2	=4B68762.D		=		=

Compound

	1	0.5	100	50	20	200	5	2	10	0.2	Avg	%RSD
--	---	-----	-----	----	----	-----	---	---	----	-----	-----	------

1)	tert butyl alcohol-d9	-----ISTD-----											
2)	tertiary butyl alcohol	1.449	1.273	1.304	1.281	1.241	1.329	1.219	1.338	1.304	5.44		
3)	1,4-dioxane	0.115	0.117	0.114	0.111	0.108		0.114	0.113	2.71			
4)	Ethanol								0.000#	-1.00			
5)	I pentafluorobenzene	-----ISTD-----											
6)	CHLOROTRIFLUOROETHENE								0.000#	-1.00			
7)	chlorodifluoromethane	0.673	0.821	0.815	0.809	0.793	0.832	0.816	0.768	0.791	6.52		
8)	dichlorodifluoromethane	0.632	0.571	0.711	0.753	0.706	0.737	0.677	0.685	0.702	0.686	8.07	
9)	Freon 114								0.000#	-1.00			
10)	chloromethane	0.332	0.315	0.350	0.349	0.349	0.327	0.384	0.386	0.352	0.343	8.63	
11)	vinyl chloride	0.870	0.932	0.927	0.947	0.926	0.892	0.911	0.907	0.951	0.882	2.95	
12)	bromomethane	0.414	0.415	0.436	0.417	0.336	0.454	0.492	0.421	0.423	10.42		
13)	chloroethane	0.406	0.410	0.418	0.432	0.421	0.378	0.371	0.405	0.433	0.408	5.28	
14)	vinyl bromide	0.537	0.518	0.586	0.603	0.595	0.559	0.573	0.580	0.605	0.552	0.571	5.07
15)	trichlorofluoromethane	0.697	0.801	0.838	0.800	0.774	0.771	0.780	0.817	0.785	5.36		
16)	1,3-butadiene	0.794	0.769	0.830	0.865	0.733	0.595	0.570	0.854	0.751	15.06		
17)	Pentane								0.000#	-1.00			
18)	freon 123a								0.000#	-1.00			
19)	ethyl ether	0.233	0.288	0.300	0.305	0.274	0.280	0.278	0.302	0.282	8.20		
20)	2-chloropropane	0.218	0.167	0.196	0.206	0.161	0.182	0.198	0.200	0.191	10.22		
21)	acrolein	0.126	0.135	0.103	0.111	0.112	0.099	0.111	0.113	0.109	0.113	9.79	
22)	1,1-dichloroethene	0.441	0.395	0.470	0.489	0.493	0.444	0.492	0.454	0.488	0.463	7.11	
23)	acetone												

6.9.1

6

Initial Calibration Summary**Job Number:** JC37024**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

24)	allyl chloride	0.046 0.404 ----- Quadratic regression ----- Response Ratio = 0.00219 + 0.42171 *A + -0.01592 *A^2	0.053 0.057 0.060 0.049 0.058 0.057 0.060 0.382 0.362 0.357 0.783 0.537 0.387 Coefficient = 0.9981	0.055	9.47
25)	acetonitrile	0.037 0.034 0.030 0.031 0.032 0.027 0.034 0.030 0.034		0.032	8.31
26)	iodomethane	0.964 1.053 0.953 0.999 1.008 0.958 0.766 0.770 0.999 1.053	0.952	10.84	
27)	carbon disulfide	1.326 1.516 1.559 1.667 1.669 1.528 1.156 1.211 1.570	1.467	12.94	
28)	methylene chloride	0.507 0.517 0.515 0.534 0.544 0.493 0.522 0.512 0.541	0.521	3.17	
29)	methyl acetate	0.080 0.081 0.081 0.076 0.078 0.063 0.085	0.078	9.13	
30)	1-chloropropane		0.000#	-1.00	
31)	methyl tert butyl ether	1.363 1.353 1.369 1.452 1.486 1.294 1.504 1.449 1.480 1.458	1.421	4.94	
32)	trans-1,2-dichloroethene	0.431 0.467 0.460 0.483 0.491 0.435 0.490 0.459 0.487 0.459	0.466	4.66	
33)	di-isopropyl ether	2.050 1.817 1.834 1.929 2.009 1.681 2.045 2.004 2.050 2.320	1.974	8.77	
34)	2-butanone	0.057 0.055 0.061 0.063 0.064 0.059 0.062 0.054 0.063	0.060	6.15	
35)	1,1-dichloroethane	0.844 0.920 0.899 0.955 0.979 0.839 0.981 0.925 1.009 1.062	0.941	7.49	
36)	chloroprene	0.761 0.631 0.764 0.788 0.796 0.713 0.793 0.755 0.798 0.820	0.762	7.19	
37)	acrylonitrile	0.197 0.192 0.196 0.203 0.211 0.186 0.205 0.191 0.210 0.215	0.201	4.79	
38)	vinyl acetate	0.096 0.099 0.095 0.094 0.087 0.082 0.097	0.093	6.58	
39)	ethyl tert-butyl ether	1.718 1.568 1.646 1.696 1.724 1.559 1.699 1.668 1.733 1.730	1.674	3.85	
40)	ethyl acetate	0.086 0.090 0.090 0.081 0.090 0.074 0.092	0.086	7.62	
41)	2,2-dichloropropane	0.457 0.486 0.424 0.485 0.508 0.386 0.477 0.455 0.500 0.491	0.467	8.07	
42)	cis-1,2-dichloroethene	0.512 0.467 0.513 0.544 0.549 0.486 0.536 0.519 0.561	0.521	5.87	
43)	methylacrylate	0.076 0.078 0.078 0.073 0.078 0.062 0.079	0.075	7.92	
44)	propionitrile	0.079 0.069 0.071 0.077 0.064 0.080 0.074 0.079	0.074	7.67	
45)	bromochloromethane	0.243 0.226 0.271 0.282 0.284 0.263 0.270 0.253 0.283 0.231	0.260	8.22	
46)	tetrahydrofuran	0.173 0.166 0.173 0.182 0.155 0.186 0.181 0.193	0.176	6.82	
47)	chloroform	0.589 0.657 0.537 0.559 0.573 0.506 0.579 0.539 0.574	0.568	7.42	
48)	T-BUTYL FORMATE	0.366 0.423 0.442 0.446 0.417 0.370 0.412 0.407	0.410	7.20	
49)	dibromofluoromethane (s)	0.416 0.418 0.427 0.429 0.426 0.430 0.420 0.420 0.421 0.416	0.422	1.23	
50)	1,2-dichloroethane-d4 (s)	0.467 0.460 0.445 0.452 0.458 0.442 0.465 0.461 0.472 0.452	0.457	2.11	
51)	freon 113	0.402 0.431 0.423 0.408 0.311	0.407	10.97	

6.9.1

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Initial Calibration Summary**Job Number:** JC37024**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

52)	methacrylonitrile	0.388 0.375 0.353 0.365 0.361 0.335 0.398 0.365 0.378	0.369	5.08
53)	1,1,1-trichloroethane	0.650 0.640 0.676 0.708 0.698 0.654 0.631 0.595 0.685 0.656	0.659	5.11
54)	cyclohexane	0.699 0.682 0.666 0.768 0.734 0.700 0.572 0.548 0.712	0.676	10.66
55)	iso-butyl alcohol		0.000#	-1.00
56)	I 1,4-difluorobenzene	-----ISTD-----		
57)	epichlorohydrin	0.041 0.031 0.039 0.038 0.040 0.038 0.038 0.039 0.040	0.038	7.44
58)	n-butyl alcohol	0.011 0.010 0.012 0.010 0.015 0.010 0.014	0.012	17.25
59)	carbon tetrachloride	0.377 0.386 0.421 0.449 0.452 0.416 0.426 0.396 0.441 0.437	0.420	6.27
60)	1,1-dichloropropene	0.463 0.525 0.471 0.500 0.509 0.446 0.503 0.457 0.512 0.519	0.490	5.81
61)	hexane--The compound does not meet initial criteria.	0.542 0.461 0.565 0.633 0.621 0.573 0.577 0.616 0.583 0.571	0.574	8.51
62)	Tert Amyl alcohol	0.021 0.017 0.017 0.019 0.017 0.022 0.019 0.020	0.019	10.95
63)	benzene	1.369 1.441 1.347 1.418 1.439 1.273 1.451 1.383 1.462 1.732	1.432	8.41
64)	iso-octane	1.515 1.303 1.453 1.595 1.592 1.485 1.537 1.609 1.553 1.621	1.526	6.28
65)	tert-amyl methyl ether	0.228 0.212 0.222 0.229 0.235 0.213 0.245 0.227 0.240 0.179	0.223	8.34
66)	heptane	0.349 0.338 0.380 0.371 0.343 0.363 0.391 0.353	0.361	5.18
67)	isopropyl acetate	0.141 0.151 0.157 0.154 0.144 0.141 0.147 0.150	0.148	3.98
68)	1,2-dichloroethane	0.453 0.476 0.432 0.460 0.474 0.403 0.480 0.474 0.486 0.436	0.458	5.80
69)	trichloroethene	0.341 0.349 0.352 0.372 0.379 0.333 0.372 0.350 0.379 0.362	0.359	4.49
70)	Tert-amyl Ethyl Ether		0.000#	-1.00
71)	ethyl acrylate	0.446 0.509 0.468 0.477 0.477 0.446 0.479 0.430 0.473	0.467	5.00
72)	2-nitropropane	0.156 0.140 0.146 0.149 0.134 0.153 0.135 0.142	0.144	5.64
73)	2-chloroethyl vinyl ether	0.243 0.215 0.234 0.242 0.246 0.218 0.241 0.233 0.249 0.295	0.242	9.03
74)	methyl methacrylate	0.087 0.106 0.108 0.105 0.102 0.100 0.093 0.100	0.100	6.87
75)	1,2-dichloropropane	0.393 0.378 0.371 0.397 0.414 0.342 0.425 0.418 0.420 0.337	0.389	8.23
76)	dibromomethane	0.226 0.227 0.224 0.234 0.234 0.217 0.235 0.223 0.236 0.249	0.231	3.92
77)	methylcyclohexane	0.599 0.485 0.594 0.640 0.637 0.582 0.630 0.643 0.628 0.563	0.600	8.11
78)	bromodichloromethane	0.418 0.490 0.486 0.498 0.492 0.468 0.490 0.454 0.480 0.398	0.467	7.33
79)	cis-1,3-dichloropropene	0.588 0.589 0.643 0.673 0.669 0.622 0.649 0.615 0.650 0.546	0.624	6.49
80)	toluene-d8 (s)	1.156 1.150 1.150 1.155 1.153 1.161 1.153 1.159 1.153 1.158	1.155	0.31
81)	4-methyl-2-pentanone	0.163 0.176 0.143 0.152 0.162 0.133 0.167 0.158 0.163 0.172	0.159	8.36

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Initial Calibration Summary**Job Number:** JC37024**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRLW: UTAS Plants 1/2 Facility, Rockford, IL

82)	toluene	0.866 0.947 0.866 0.900 0.903 0.831 0.897 0.855 0.900 1.109 0.907	8.59
83)	3-methyl-1-butanol	0.018 0.016 0.015 0.015 0.017 0.014 0.017 0.017 0.018	0.016 7.96
84)	trans-1,3-dichloropropene	0.455 0.541 0.545 0.569 0.568 0.526 0.551 0.502 0.552 0.588 0.540	7.09
85)	ethyl methacrylate	0.456 0.505 0.516 0.513 0.483 0.521 0.461 0.508	0.495 5.14
86)	1,1,2-trichloroethane	0.272 0.289 0.295 0.295 0.278 0.312 0.283 0.296	0.290 4.31
87)	2-hexanone	0.166 0.151 0.159 0.169 0.142 0.176 0.169 0.174	0.163 7.13
88)	I chlorobenzene-d5	-----ISTD-----	
89)	tetrachloroethene	0.414 0.429 0.402 0.404 0.394 0.373 0.420 0.389 0.428 0.460 0.411	5.97
90)	1,3-dichloropropane	0.624 0.785 0.580 0.599 0.603 0.559 0.659 0.624 0.613 0.664 0.631	9.95
91)	butyl acetate	0.329 0.242 0.294 0.293 0.294 0.291 0.301 0.277 0.303	0.291 7.94
92)	3,3-DIMETHYL-1-BUTANOL	0.041 0.036 0.035 0.033 0.036 0.034 0.035 0.035 0.038	0.036 6.50
93)	dibromochloromethane	0.296 0.403 0.458 0.448 0.416 0.458 0.389 0.355 0.389 0.331 0.394	13.79
94)	1,2-dibromoethane	0.389 0.481 0.420 0.421 0.405 0.415 0.401 0.393 0.408 0.409 0.414	6.19
95)	n-butyl ether	1.756 2.043 1.873 1.896 1.857 1.785 1.828 1.686 1.833 2.267 1.882	8.74
96)	chlorobenzene	1.054 1.221 1.085 1.107 1.092 1.057 1.110 1.054 1.094 1.282 1.116	6.81
97)	1,1,1,2-tetrachloroethane	0.350 0.469 0.401 0.408 0.396 0.394 0.400 0.371 0.394 0.388 0.397	7.65
98)	ethylbenzene	1.794 1.929 1.767 1.824 1.824 1.681 1.882 1.803 1.835 2.262 1.860	8.39
99)	m,p-xylene	0.665 0.759 0.717 0.727 0.714 0.703 0.738 0.707 0.723 0.840 0.729	6.27
100)	o-xylene	0.666 0.766 0.749 0.760 0.737 0.731 0.741 0.705 0.736 0.706 0.730	4.09
101)	styrene	1.150 1.425 1.227 1.261 1.249 1.199 1.281 1.191 1.245 1.534 1.276	9.14
102)	bromoform	0.175 0.354 0.334 0.289 0.255 0.225 0.251	0.269 23.17
		----- Linear regression ----- Coefficient = 0.9941	
		Response Ratio = -0.00541 + 0.34174 *A	
103)	I 1,4-dichlorobenzene-d	-----ISTD-----	
104)	isopropylbenzene	3.060 3.382 3.078 3.289 3.303 2.973 3.414 3.071 3.336 3.870 3.278	7.92
105)	4-bromofluorobenzene (s)	0.828 0.817 0.799 0.809 0.815 0.819 0.832 0.822 0.822 0.824 0.819	1.16
106)	cyclohexanone	0.171 0.142 0.152 0.163 0.126 0.198 0.164 0.175	0.161 13.49
107)	bromobenzene	0.913 1.138 0.885 0.938 0.930 0.873 0.992 0.922 0.958	0.950 8.32
108)	1,1,2,2-tetrachloroethane	0.846 0.877 0.914 0.904 0.854 1.021 0.870 0.906	0.899 6.15
109)	trans-1,4-dichloro-2-butene--The compound does not meet initial criteria.	0.196 0.187 0.155 0.208 0.137 0.120 0.116	0.160 23.36
		----- Linear regression ----- Coefficient = 0.9944	

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Initial Calibration Summary

Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Ratio = -0.00659 + 0.20133 *A

110)	1,2,3-trichloropropane	0.200	0.218	0.225	0.230	0.214	0.260	0.220	0.232	0.225	7.81	
111)	n-propylbenzene	3.704	3.557	3.814	3.877	3.450	4.033	3.814	3.941	3.774	5.17	
112)	4-ETHYLTOLUENE									0.000#	-1.00	
113)	2-chlorotoluene	0.777	0.893	0.794	0.836	0.826	0.786	0.854	0.796	0.839	0.823	4.58
114)	4-chlorotoluene	2.317	2.245	2.380	2.376	2.181	2.499	2.336	2.407	2.343	4.19	
115)	1,3,5-trimethylbenzene	2.567	2.914	2.526	2.709	2.737	2.417	2.852	2.703	2.770	2.688	5.92
116)	tert-butylbenzene	2.338	2.716	2.386	2.539	2.527	2.291	2.589	2.401	2.534	2.480	5.47
117)	pentachloroethane	0.452	0.523	0.564	0.565	0.559	0.525	0.516	0.501	0.526	7.27	
118)	1,2,4-trimethylbenzene	2.564	2.608	2.819	2.852	2.467	2.941	2.751	2.877	2.735	6.20	
119)	sec-butylbenzene	3.473	3.585	3.852	3.835	3.427	3.852	3.577	3.842	3.680	4.99	
120)	1,3-dichlorobenzene	1.829	1.663	1.781	1.798	1.601	1.905	1.789	1.842	1.776	5.55	
121)	p-isopropyltoluene	2.947	3.143	3.379	3.396	2.961	3.370	3.066	3.351	3.201	6.07	
122)	1,4-dichlorobenzene	1.733	1.666	1.771	1.761	1.616	1.821	1.714	1.757	1.730	3.73	
123)	benzyl chloride	1.411	1.356	1.623	1.747	1.688	1.642	1.428	1.408	1.472	1.530	9.42
124)	1,2-dichlorobenzene	1.723	1.625	1.759	1.802	1.540	1.833	1.743	1.763	1.724	5.58	
125)	1,4-DIETHYLBENZENE									0.000#	-1.00	
126)	n-butylbenzene	1.557	1.777	1.662	1.819	1.809	1.557	1.712	1.601	1.762	1.695	6.18
127)	1,2,4,5-TETRAMETHYLBENZENE									0.000#	-1.00	
128)	1,2-dibromo-3-chloropropane	0.160	0.165	0.156	0.157	0.155	0.126	0.155	0.155	0.153	8.14	
129)	1,3,5-TRICHLOROBENZENE	1.396	1.482	1.616	1.664	1.396	1.577	1.462	1.593	1.523	6.75	
130)	1,2,4-trichlorobenzene	1.227	1.358	1.463	1.478	1.298	1.379	1.226	1.415	1.356	7.22	
131)	hexachlorobutadiene	0.763	0.908	0.724	0.799	0.835	0.695	0.831	0.771	0.831	0.795	8.17
132)	naphthalene	2.358	2.431	2.576	2.568	2.342	2.557	2.255	2.525	2.451	5.00	
133)	1,2,3-trichlorobenzene	1.109	1.190	1.260	1.264	1.149	1.233	1.112	1.230	1.193	5.31	
134)	hexachloroethane	0.642	0.664	0.617	0.638	0.534	0.536	0.560	0.599	0.599	9.08	
135)	2-ethylhexyl acrylate--The compound does not meet initial criteria.	0.350	0.306	0.233	0.407	0.167	0.187	0.192	0.263	35.08		
	----- Linear regression ----- Coefficient = 0.9943											
	Response Ratio = -0.01085 + 0.40945 *A											
136)	2-methylnaphthalene--The compound does not meet initial criteria.	0.650	0.658	0.578	0.674	0.468	0.531	0.593	13.86			

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Initial Calibration Summary

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Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

137) I pentafluorobenzene(a) -----ISTD-----

138) Freon 142B

0.473 0.459 0.567 0.539 0.210 0.376 0.437 29.69

----- Linear regression ----- Coefficient = 0.9931

Response Ratio = -0.02771 + 0.52631 *A

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4B2825.M Tue Jan 31 17:17:16 2017 GCMS4B

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Initial Calibration Verification

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Job Number: JC37024

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\4B68770.D Vial: 17
 Acq On : 27 Jan 2017 6:19 pm Operator: Hueanht
 Sample : icv2825-50 Inst : MS4B
 Misc : MS11826,V4B2825,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
<hr/>							
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	93	0.00
2 M	tertiary butyl alcohol	250.00	1.304	1.375	-5.4	98	0.00
3 M	1,4-dioxane	1250.00	0.113	0.119	-5.3	95	0.00
4	Ethanol				-----NA-----		
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	98	0.00
6	CHLOROTRIFLUOROETHENE				-----NA-----		
7 M	chlorodifluoromethane	50.00	0.791	0.726	8.2	88	-0.01
8 M	dichlorodifluoromethane	50.00	0.686	0.734	-7.0	96	-0.01
9	Freon 114				-----NA-----		
10 M	chloromethane	50.00	0.343	0.385	-12.2	109	0.01
11 M	vinyl chloride	50.00	0.914	0.936	-2.4	97	0.00
12 M	bromomethane	50.00	0.423	0.434	-2.6	98	0.00
13 M	chloroethane	50.00	0.408	0.395	3.2	90	0.01
14	v vinyl bromide	50.00	0.571	0.582	-1.9	95	0.00
15 M	trichlorofluoromethane	50.00	0.785	0.818	-4.2	96	-0.02
16	1,3-butadiene	50.00	0.751	0.669	10.9	79	0.00
17	Pentane				-----NA-----		
18	freon 123a				-----NA-----		
19 M	ethyl ether	50.00	0.282	0.291	-3.2	96	0.00
20	2-chloropropane	50.00	0.191	0.157	17.8	79	0.00
21 M	acrolein	500.00	0.113	0.102	9.7	91	0.00
22 M	1,1-dichloroethene	50.00	0.463	0.503	-8.6	101	0.00
23 M	acetone	250.00	0.055	0.055	0.0	95	0.00
<hr/>							
24 M	allyl chloride	50.00	0.146	92.583	-85.2#	187	0.00
<hr/>							
25 M	acetonitrile	500.00	0.032	0.029	9.4	90	0.00
26 M	iodomethane	50.00	0.952	0.808	15.1	80	-0.03
27 M	carbon disulfide	50.00	1.467	1.242	15.3	73	0.00
28 M	methylene chloride	50.00	0.521	0.516	1.0	95	0.00
29 M	methyl acetate	50.00	0.078	0.079	-1.3	96	0.00
30	1-chloropropane				-----NA-----		
31 M	methyl tert butyl ether	50.00	1.421	1.381	2.8	94	0.00
32 M	trans-1,2-dichloroethene	50.00	0.466	0.462	0.9	94	0.00
33 M	di-isopropyl ether	50.00	1.974	1.936	1.9	99	0.00
34 M	2-butanone	250.00	0.060	0.059	1.7	93	0.00
35 M	1,1-dichloroethane	50.00	0.941	0.941	0.0	97	0.00
36 M	chloroprene	50.00	0.762	0.782	-2.6	98	0.00
37 M	acrylonitrile	250.00	0.201	0.197	2.0	96	0.00

Initial Calibration Verification

Job Number: JC37024

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	50.00	0.093	0.092	1.1	92	0.00	7.66
39 M	ethyl tert-butyl ether	50.00	1.674	1.712	-2.3	99	0.00	8.11
40 M	ethyl acetate	50.00	0.086	0.094	-9.3	102	0.00	8.31
41 M	2,2-dichloropropane	50.00	0.467	0.432	7.5	88	0.00	8.39
42 M	cis-1,2-dichloroethene	50.00	0.521	0.529	-1.5	96	0.00	8.37
43	methylacrylate	50.00	0.075	0.076	-1.3	96	0.00	8.39
44 M	propionitrile	500.00	0.074	0.069	6.8	96	0.00	8.39
45 M	bromochloromethane	50.00	0.260	0.279	-7.3	97	0.00	8.65
46 M	tetrahydrofuran	50.00	0.176	0.166	5.7	94	0.00	8.66
47 M	chloroform	50.00	0.568	0.549	3.3	97	0.00	8.71
48 M	T-BUTYL FORMATE	50.00	0.410	0.297	27.6	66	0.00	8.75
49 S	dibromofluoromethane (s)	50.00	0.422	0.424	-0.5	97	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.446	2.4	97	0.00	9.29
51 M	freon 113	50.00	0.397	0.469	-18.1	107	0.00	6.26
52 M	methacrylonitrile	50.00	0.369	0.346	6.2	93	0.00	8.56
53 M	1,1,1-trichloroethane	50.00	0.659	0.644	2.3	90	0.00	8.95
54 M	cyclohexane	50.00	0.676	0.575	14.9	74	0.00	9.05
55	iso-butyl alcohol				-----NA-----			
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	97	0.00	9.72
57 M	epichlorohydrin	250.00	0.038	0.036	5.3	93	0.00	10.87
58 M	n-butyl alcohol	2500.00	0.012	0.010#	16.7	92	0.00	9.75
59 M	carbon tetrachloride	50.00	0.420	0.417	0.7	90	0.00	9.14
60 M	1,1-dichloropropene	50.00	0.490	0.496	-1.2	96	0.00	9.11
61 M	hexane	50.00	0.574	0.281	51.0#	43#	0.00	7.52
62	Tert Amyl alcohol	250.00	0.019	0.032	-68.4#	184	0.00	9.21
63 M	benzene	50.00	1.432	1.404	2.0	96	0.00	9.35
64 m	iso-octane	50.00	1.526	1.409	7.7	86	0.00	9.42
65 M	tert-amyl methyl ether	50.00	0.223	0.237	-6.3	100	0.00	9.40
66 M	heptane	50.00	0.361	0.362	-0.3	93	0.00	9.56
67 M	isopropyl acetate	50.00	0.148	0.153	-3.4	95	0.00	9.24
68 M	1,2-dichloroethane	50.00	0.458	0.448	2.2	95	0.00	9.37
69 M	trichloroethene	50.00	0.359	0.372	-3.6	97	0.00	10.02
70	Tert-amyl Ethyl Ether				-----NA-----			
71	ethyl acrylate	50.00	0.467	0.461	1.3	94	0.00	9.99
72 M	2-nitropropane	50.00	0.144	0.141	2.1	94	0.00	10.75
73 M	2-chloroethyl vinyl ether	250.00	0.242	0.251	-3.7	101	0.00	10.77
74 M	methyl methacrylate	50.00	0.100	0.099	1.0	89	0.00	10.24
75 M	cis-1,2-dichloropropene	50.00	0.389	0.389	0.0	95	0.00	10.30
76 M	dibromomethane	50.00	0.231	0.230	0.4	95	0.00	10.41
77 M	methylcyclohexane	50.00	0.600	0.602	-0.3	91	0.00	10.30
78 M	bromodichloromethane	50.00	0.467	0.496	-6.2	97	0.00	10.55
79 M	cis-1,3-dichloropropene	50.00	0.624	0.660	-5.8	95	0.00	11.00
80 S	toluene-d8 (s)	50.00	1.155	1.153	0.2	97	0.00	11.31
81 M	4-methyl-2-pentanone	250.00	0.159	0.147	7.5	94	0.00	11.09
82 M	toluene	50.00	0.907	0.895	1.3	97	0.00	11.39
83 M	3-methyl-1-butanol	1000.00	0.016	0.014	12.5	89	0.00	11.08
84 M	trans-1,3-dichloropropene	50.00	0.540	0.559	-3.5	95	0.00	11.57
85 M	ethyl methacrylate	50.00	0.495	0.498	-0.6	94	0.00	11.55
86 M	1,1,2-trichloroethane	50.00	0.290	0.295	-1.7	97	0.00	11.81
87 M	2-hexanone	250.00	0.163	0.151	7.4	92	0.00	11.97
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	97	0.00	12.91
89 M	tetrachloroethene	50.00	0.411	0.446	-8.5	107	0.00	11.96
90 M	1,3-dichloropropane	50.00	0.631	0.588	6.8	95	0.00	12.00
91 M	butyl acetate	50.00	0.291	0.287	1.4	95	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	500.00	0.036	0.029	19.4	85	0.00	12.16
93 M	dibromochloromethane	50.00	0.394	0.443	-12.4	96	0.00	12.27
94 M	1,2-dibromoethane	50.00	0.414	0.412	0.5	95	0.00	12.43
95	n-butyl ether	50.00	1.882	1.888	-0.3	97	0.00	12.88

6.9.2
6

Initial Calibration Verification

Job Number: JC37024

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	50.00	1.116	1.100	1.4	97	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	50.00	0.397	0.403	-1.5	96	0.00	13.01
98 M	ethylbenzene	50.00	1.860	1.815	2.4	97	0.00	13.00
99 M	m,p-xylene	100.00	0.729	0.722	1.0	97	0.00	13.13
100 M	o-xylene	50.00	0.730	0.747	-2.3	96	0.00	13.57
101 M	styrene	50.00	1.276	1.240	2.8	96	0.00	13.59
-----TrueValue CC-RF Calc. % Drift ----- R.T.								
102 M	bromoform	50.00	0.322	47.916	4.2	94	0.00	13.84

103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	96	0.00	15.48
104 M	isopropylbenzene	50.00	3.278	3.262	0.5	95	0.00	13.95
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.817	0.2	97	0.00	14.18
106	cyclohexanone	500.00	0.161	0.150	6.8	94	0.00	14.11
107 M	bromobenzene	50.00	0.950	0.933	1.8	95	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	50.00	0.899	0.878	2.3	92	0.00	14.27

109 M	trans-1,4-dichloro-2-butene	50.00	0.193	49.529	0.9	99	0.00	14.30
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110 M	1,2,3-trichloropropane	50.00	0.225	0.220	2.2	94	0.00	14.37
111 M	n-propylbenzene	50.00	3.774	3.758	0.4	94	0.00	14.41
112	4-ETHYLtoluene				-----NA-----			
113 M	2-chlorotoluene	50.00	0.823	0.830	-0.9	95	0.00	14.57
114 M	4-chlorotoluene	50.00	2.343	2.353	-0.4	95	0.00	14.69
115 M	1,3,5-trimethylbenzene	50.00	2.688	2.667	0.8	94	0.00	14.59
116 M	tert-butylbenzene	50.00	2.480	2.514	-1.4	95	0.00	14.97
117 M	pentachloroethane	50.00	0.526	0.474	9.9	81	0.00	15.05
118 M	1,2,4-trimethylbenzene	50.00	2.735	2.761	-1.0	94	0.00	15.03
119 M	sec-butylbenzene	50.00	3.680	3.802	-3.3	95	0.00	15.21
120 M	1,3-dichlorobenzene	50.00	1.776	1.758	1.0	95	0.00	15.40
121 M	p-isopropyltoluene	50.00	3.201	3.308	-3.3	94	0.00	15.36
122 M	1,4-dichlorobenzene	50.00	1.730	1.737	-0.4	94	0.00	15.51
123	benzyl chloride	50.00	1.530	1.102	28.0	60	0.00	15.61
124 M	1,2-dichlorobenzene	50.00	1.724	1.745	-1.2	95	0.00	15.93
125	1,4-DIETHYLBENZENE				-----NA-----			
126 M	n-butylbenzene	50.00	1.695	1.760	-3.8	93	0.00	15.82
127	1,2,4,5-TETRAMETHYLBENZEN				-----NA-----			
128 M	1,2-dibromo-3-chloropropane	50.00	0.153	0.162	-5.9	94	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	50.00	1.523	1.587	-4.2	94	0.00	16.97
130 M	1,2,4-trichlorobenzene	50.00	1.356	1.419	-4.6	93	0.00	17.66
131 M	hexachlorobutadiene	50.00	0.795	0.773	2.8	93	0.00	17.77
132 M	naphthalene	50.00	2.451	2.459	-0.3	92	0.00	17.97
133 M	1,2,3-trichlorobenzene	50.00	1.193	1.226	-2.8	93	0.00	18.21
134 m	hexachloroethane	50.00	0.599	0.650	-8.5	94	0.00	16.25

135	2-ethylhexyl acrylate	10.00	0.055	8.028	19.7	86	0.00	17.66
136	2-methylnaphthalene				-----NA-----			

137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	102	0.00	8.84
138	Freon 142B				-----NA-----			

6

Initial Calibration Verification

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-ICV2825

Lab FileID: 4B68770.D

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4B68758.D M4B2825.M Tue Jan 31 17:15:31 2017 GCMS4B

Initial Calibration Verification

Job Number: JC37024

Sample: V4B2828-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68840.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\4B68840.D Vial: 12
 Acq On : 31 Jan 2017 4:10 am Operator: Hueanht
 Sample : icv2825-50 Inst : MS4B
 Misc : MS12037,V4B2828,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	114	0.00
2 M	tertiary butyl alcohol		-----	NA-----			
3 M	1,4-dioxane		-----	NA-----			
4	Ethanol		-----	NA-----			
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	92	0.00
6	CHLOROTRIFLUOROETHENE		-----	NA-----			
7 M	chlorodifluoromethane		-----	NA-----			
8 M	dichlorodifluoromethane		-----	NA-----			
9	Freon 114		-----	NA-----			
10 M	chloromethane		-----	NA-----			
11 M	vinyl chloride		-----	NA-----			
12 M	bromomethane		-----	NA-----			
13 M	chloroethane		-----	NA-----			
14	vinyl bromide		-----	NA-----			
15 M	trichlorofluoromethane		-----	NA-----			
16	1,3-butadiene		-----	NA-----			
17	Pentane		-----	NA-----			
18	freon 123a		-----	NA-----			
19 M	ethyl ether		-----	NA-----			
20	2-chloropropane		-----	NA-----			
21 M	acrolein		-----	NA-----			
22 M	1,1-dichloroethene		-----	NA-----			
23 M	acetone		-----	NA-----			
24 M	allyl chloride		-----	NA-----			
25 M	acetonitrile		-----	NA-----			
26 M	iodomethane		-----	NA-----			
27 M	carbon disulfide		-----	NA-----			
28 M	methylene chloride		-----	NA-----			
29 M	methyl acetate		-----	NA-----			
30	1-chloropropane		-----	NA-----			
31 M	methyl tert butyl ether		-----	NA-----			
32 M	trans-1,2-dichloroethene		-----	NA-----			
33 M	di-isopropyl ether		-----	NA-----			
34 M	2-butanone		-----	NA-----			
35 M	1,1-dichloroethane		-----	NA-----			
36 M	chloroprene		-----	NA-----			
37 M	acrylonitrile		-----	NA-----			
38 M	vinyl acetate		-----	NA-----			
39 M	ethyl tert-butyl ether		-----	NA-----			
40 M	ethyl acetate		-----	NA-----			
41 M	2,2-dichloropropane		-----	NA-----			

Initial Calibration Verification

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-ICV2825
Lab FileID: 4B68840.D

42 M	cis-1,2-dichloroethene		-----	-NA-----								
43	methylacrylate		-----	-NA-----								
44 M	propionitrile		-----	-NA-----								
45 M	bromochloromethane		-----	-NA-----								
46 M	tetrahydrofuran		-----	-NA-----								
47 M	chloroform		-----	-NA-----								
48 M	T-BUTYL FORMATE		-----	-NA-----								
49 S	dibromofluoromethane (s)	50.00	0.422	0.440	-4.3	94	0.00	8.89				
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.499	-9.2	101	0.00	9.29				
51 M	freon 113		-----	-NA-----								
52 M	methacrylonitrile		-----	-NA-----								
53 M	1,1,1-trichloroethane		-----	-NA-----								
54 M	cyclohexane		-----	-NA-----								
55	iso-butyl alcohol		-----	-NA-----								
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	92	0.00	9.72				
57 M	epichlorohydrin		-----	-NA-----								
58 M	n-butyl alcohol		-----	-NA-----								
59 M	carbon tetrachloride		-----	-NA-----								
60 M	1,1-dichloropropene		-----	-NA-----								
61 M	hexane		-----	-NA-----								
62	Tert Amyl alcohol		-----	-NA-----								
63 M	benzene		-----	-NA-----								
64 m	iso-octane		-----	-NA-----								
65 M	tert-amyl methyl ether		-----	-NA-----								
66 M	heptane		-----	-NA-----								
67 M	isopropyl acetate		-----	-NA-----								
68 M	1,2-dichloroethane		-----	-NA-----								
69 M	trichloroethene		-----	-NA-----								
70	Tert-amyl Ethyl Ether		-----	-NA-----								
71	ethyl acrylate		-----	-NA-----								
72 M	2-nitropropane		-----	-NA-----								
73 M	2-chloroethyl vinyl ether		-----	-NA-----								
74 M	methyl methacrylate		-----	-NA-----								
75 M	1,2-dichloropropane		-----	-NA-----								
76 M	dibromomethane		-----	-NA-----								
77 M	methylcyclohexane		-----	-NA-----								
78 M	bromodichloromethane		-----	-NA-----								
79 M	cis-1,3-dichloropropene		-----	-NA-----								
80 S	toluene-d8 (s)	50.00	1.155	1.163	-0.7	92	0.00	11.31				
81 M	4-methyl-2-pentanone		-----	-NA-----								
82 M	toluene		-----	-NA-----								
83 M	3-methyl-1-butanol		-----	-NA-----								
84 M	trans-1,3-dichloropropene		-----	-NA-----								
85 M	ethyl methacrylate		-----	-NA-----								
86 M	1,1,2-trichloroethane		-----	-NA-----								
87 M	2-hexanone		-----	-NA-----								
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	94	0.00	12.90				
89 M	tetrachloroethene		-----	-NA-----								
90 M	1,3-dichloropropane		-----	-NA-----								
91 M	butyl acetate		-----	-NA-----								
92 M	3,3-DIMETHYL-1-BUTANOL		-----	-NA-----								
93 M	dibromochloromethane		-----	-NA-----								
94 M	1,2-dibromoethane		-----	-NA-----								
95	n-butyl ether		-----	-NA-----								
96 M	chlorobenzene		-----	-NA-----								
97 M	1,1,2-tetrachloroethane		-----	-NA-----								
98 M	ethylbenzene		-----	-NA-----								
99 M	m,p-xylene		-----	-NA-----								

Initial Calibration Verification

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-ICV2825

Lab FileID: 4B68840.D

100 M	o-xylene		-----	-NA-----							
101 M	styrene		-----	-NA-----							
102 M	bromoform		-----	-NA-----							
103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	90	0.00	15.48			
104 M	isopropylbenzene		-----	-NA-----							
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.826	-0.9	92	0.00	14.18			
106	cyclohexanone		-----	-NA-----							
107 M	bromobenzene		-----	-NA-----							
108 M	1,1,2,2-tetrachloroethane		-----	-NA-----							
109 M	trans-1,4-dichloro-2-bute		-----	-NA-----							
110 M	1,2,3-trichloropropane		-----	-NA-----							
111 M	n-propylbenzene		-----	-NA-----							
112	4-ETHYLtoluene		-----	-NA-----							
113 M	2-chlorotoluene		-----	-NA-----							
114 M	4-chlorotoluene		-----	-NA-----							
115 M	1,3,5-trimethylbenzene		-----	-NA-----							
116 M	tert-butylbenzene		-----	-NA-----							
117 M	pentachloroethane		-----	-NA-----							
118 M	1,2,4-trimethylbenzene		-----	-NA-----							
119 M	sec-butylbenzene		-----	-NA-----							
120 M	1,3-dichlorobenzene		-----	-NA-----							
121 M	p-isopropyltoluene		-----	-NA-----							
122 M	1,4-dichlorobenzene		-----	-NA-----							
123	benzyl chloride		-----	-NA-----							
124 M	1,2-dichlorobenzene		-----	-NA-----							
125	1,4-DIETHYLBENZENE		-----	-NA-----							
126 M	n-butylbenzene		-----	-NA-----							
127	1,2,4,5-TETRAMETHYLBENZEN		-----	-NA-----							
128 M	1,2-dibromo-3-chloropropa		-----	-NA-----							
129	1,3,5-TRICHLOROBENZENE		-----	-NA-----							
130 M	1,2,4-trichlorobenzene		-----	-NA-----							
131 M	hexachlorobutadiene		-----	-NA-----							
132 M	naphthalene		-----	-NA-----							
133 M	1,2,3-trichlorobenzene		-----	-NA-----							
134 m	hexachloroethane		-----	-NA-----							
135	2-ethylhexyl acrylate		-----	-NA-----							
136	2-methylnaphthalene		-----	-NA-----							
137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	95	0.00	8.84			
		-----	TrueValue	CC-RF	Calc.	% Drift	-----	R.T.			
138	Freon 142B	50.00	0.420	42.546	14.9	87	0.00	4.11			

(#= Out of Range
4B68758.D M4B2825.MSPCC's out = 0 CCC's out = 0
Tue Jan 31 17:12:12 2017 GCMS4B6.9.3
6

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2850-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69259.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\V4B2850-51\4B69259.D Vial: 3
 Acq On : 14 Feb 2017 9:31 am Operator: Hueanht
 Sample : CC2825-20 Inst : MS4B
 Misc : MS12448,V4B2850,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	84	0.00	6.80
2 M	tertiary butyl alcohol	1.304	1.320	-1.2	86	0.00	6.90
3 M	1,4-dioxane	0.113	0.119	-5.3	88	0.00	10.34
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	93	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.983	-24.3#	113	0.00	3.86
8 M	dichlorodifluoromethane	0.686	0.615	10.3	81	0.00	3.82
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.353	-2.9	94	0.00	4.18
11 M	vinyl chloride	0.914	0.895	2.1	90	0.00	4.40
12 M	bromomethane	0.423	0.457	-8.0	102	0.01	4.99
13 M	chloroethane	0.408	0.401	1.7	89	0.02	5.17
14	vinyl bromide	0.571	0.520	8.9	81	0.01	5.46
15 M	trichlorofluoromethane	0.785	0.877	-11.7	102	-0.02	5.51
16	1,3-butadiene	0.751	0.725	3.5	78	0.00	4.47
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.283	-0.4	86	0.00	5.88
20	2-chloropropane	0.191	0.176	7.9	79	0.00	6.07
21 M	acrolein	0.113	0.102	9.7	85	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.508	-9.7	96	0.00	6.25
23 M	acetone	0.055	0.048	12.7	75	0.00	6.26
24 M	allyl chloride	20.000	33.735	True -68.7#	180	0.00	6.71
25 M	acetonitrile	0.032	0.034	-6.3	99	0.00	6.62
26 M	iodomethane	0.952	0.794	16.6	73	-0.03	6.48
27 M	carbon disulfide	1.467	1.397	4.8	78	0.00	6.61
28 M	methylene chloride	0.521	0.540	-3.6	92	0.00	6.87
29 M	methyl acetate	0.078	0.072	7.7	83	0.00	6.66
30	1-chloropropane			-----NA-----			
31 M	methyl tert butyl ether	1.421	1.381	2.8	87	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.502	-7.7	95	0.00	7.21
33 M	di-isopropyl ether	1.974	2.050	-3.9	95	0.00	7.69
34 M	2-butanone	0.060	0.054	10.0	78	0.00	8.30
35 M	1,1-dichloroethane	0.941	1.006	-6.9	96	0.00	7.73
36 M	chloroprene	0.762	0.806	-5.8	94	0.00	7.82
37 M	acrylonitrile	0.201	0.184	8.5	81	0.00	7.13

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2850-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69259.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.088	5.4	86	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.664	0.6	90	0.00	8.11
40 M	ethyl acetate	0.086	0.084	2.3	87	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.514	-10.1	94	0.00	8.39
42 M	cis-1,2-dichloroethene	0.521	0.560	-7.5	95	0.00	8.37
43	methylacrylate	0.075	0.067	10.7	81	0.00	8.39
44 M	propionitrile	0.074	0.070	5.4	86	0.00	8.38
45 M	bromochloromethane	0.260	0.280	-7.7	92	0.00	8.64
46 M	tetrahydrofuran	0.176	0.157	10.8	80	0.00	8.66
47 M	chloroform	0.568	0.600	-5.6	98	0.00	8.71
48 M	T-BUTYL FORMATE	0.410	0.378	7.8	79	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.437	-3.6	95	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.475	-3.9	97	0.00	9.29
51 M	freon 113	0.397	0.381	4.0	84	0.00	6.25
52 M	methacrylonitrile	0.369	0.339	8.1	87	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.700	-6.2	93	0.00	8.95
54 M	cyclohexane	0.676	0.617	8.7	78	0.00	9.05
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	9.71
57 M	epichlorohydrin	0.038	0.035	7.9	81	0.00	10.87
58 M	n-butyl alcohol	0.012	0.011	8.3	88	0.00	9.75
59 M	carbon tetrachloride	0.420	0.461	-9.8	95	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.524	-6.9	96	0.00	9.11
61 M	hexane	0.574	0.635	-10.6	95	0.00	7.51
62	Tert Amyl alcohol	0.019	0.016	15.8	81	0.00	9.20
63 M	benzene	1.432	1.459	-1.9	94	0.00	9.34
64 m	iso-octane	1.526	1.542	-1.0	90	0.00	9.41
65 M	tert-amyl methyl ether	0.223	0.217	2.7	86	0.00	9.40
66 M	heptane	0.361	0.407	-12.7	102	0.00	9.55
67 M	isopropyl acetate	0.148	0.129	12.8	78	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.486	-6.1	95	0.00	9.37
69 M	trichloroethene	0.359	0.388	-8.1	96	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.407	12.8	80	0.00	9.99
72 M	2-nitropropane	0.144	0.140	2.8	87	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.225	7.0	85	0.00	10.77
74 M	methyl methacrylate	0.100	0.092	8.0	82	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.424	-9.0	95	0.00	10.30
76 M	dibromomethane	0.231	0.235	-1.7	94	0.00	10.41
77 M	methylcyclohexane	0.600	0.635	-5.8	93	0.00	10.30
78 M	bromodichloromethane	0.467	0.530	-13.5	100	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.672	-7.7	94	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.165	-0.9	94	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.142	10.7	82	0.00	11.09
82 M	toluene	0.907	0.909	-0.2	94	0.00	11.39
83 M	3-methyl-1-butanol	0.016	0.017	-6.3	94	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.584	-8.1	96	0.00	11.58
85 M	ethyl methacrylate	0.495	0.455	8.1	83	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.298	-2.8	94	0.00	11.81
87 M	2-hexanone	0.163	0.144	11.7	80	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	94	0.00	12.91
89 M	tetrachloroethene	0.411	0.390	5.1	93	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.594	5.9	93	0.00	12.00
91 M	butyl acetate	0.291	0.261	10.3	84	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.039	-8.3	102	0.00	12.15
93 M	dibromochloromethane	0.394	0.437	-10.9	99	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.384	7.2	89	0.00	12.43
95	n-butyl ether	1.882	1.790	4.9	91	0.00	12.88

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Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2850-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69259.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.096	1.8	95	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.410	-3.3	98	0.00	13.01
98 M	ethylbenzene	1.860	1.876	-0.9	97	0.00	13.00
99 M	m,p-xylene	0.729	0.717	1.6	95	0.00	13.13
100 M	o-xylene	0.730	0.745	-2.1	95	0.00	13.57
101 M	styrene	1.276	1.244	2.5	94	0.00	13.59

		True	Calc.	% Drift			
102 M	bromoform	20.000	18.720	6.4	100	0.00	13.84

		AvgRF	CCRF	% Dev			
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	93	0.00	15.48
104 M	isopropylbenzene	3.278	3.375	-3.0	95	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.817	0.2	93	0.00	14.18
106	cyclohexanone	0.161	0.123	23.6#	70	0.00	14.10
107 M	bromobenzene	0.950	0.959	-0.9	96	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.871	3.1	90	0.00	14.27

		True	Calc.	% Drift			
109 M	trans-1,4-dichloro-2-bute	20.000	19.386	3.1	107	0.00	14.30

		AvgRF	CCRF	% Dev			
110 M	1,2,3-trichloropropane	0.225	0.215	4.4	87	0.00	14.36
111 M	n-propylbenzene	3.774	4.081	-8.1	98	0.00	14.41
112	4-ETHYLTOLUENE			NA			
113 M	2-chlorotoluene	0.823	0.863	-4.9	97	0.00	14.56
114 M	4-chlorotoluene	2.343	2.464	-5.2	97	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.820	-4.9	96	0.00	14.58
116 M	tert-butylbenzene	2.480	2.616	-5.5	96	0.00	14.97
117 M	pentachloroethane	0.526	0.591	-12.4	97	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.926	-7.0	95	0.00	15.02
119 M	sec-butylbenzene	3.680	3.950	-7.3	96	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.878	-5.7	97	0.00	15.40
121 M	p-isopropyltoluene	3.201	3.477	-8.6	95	0.00	15.36
122 M	1,4-dichlorobenzene	1.730	1.786	-3.2	94	0.00	15.51
123	benzyl chloride	1.530	1.556	-1.7	86	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.807	-4.8	93	0.00	15.92
125	1,4-DIETHYLBENZENE			NA			
126 M	n-butylbenzene	1.695	1.861	-9.8	96	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			NA			
128 M	1,2-dibromo-3-chloropropa	0.153	0.157	-2.6	94	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.685	-10.6	94	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.419	-4.6	89	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.839	-5.5	93	0.00	17.77
132 M	naphthalene	2.451	2.335	4.7	85	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.190	0.3	88	0.00	18.21
134 m	hexachloroethane	0.599	0.666	-11.2	100	0.00	16.25

		True	Calc.	% Drift			
135	2-ethylhexyl acrylate	4.000	4.086	-2.2	113	0.00	17.66

		AvgRF	CCRF	% Dev			
136	2-methylnaphthalene	0.593	0.468	21.1#	75	0.00	19.27

		True	Calc.	% Drift			
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	101	0.00	8.84

		True	Calc.	% Drift			
138	Freon 142B			NA			

6.9.4
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Continuing Calibration Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2850-CC2825

Lab FileID: 4B69259.D

(#) = Out of Range
4B68757.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Wed Feb 15 10:28:13 2017 11

6.9.4
6

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69310.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69310.D Vial: 6
 Acq On : 15 Feb 2017 11:00 am Operator: Hueanht
 Sample : cc2825-20 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	103	0.00	6.81
2 M	tertiary butyl alcohol	1.304	1.198	8.1	96	0.00	6.91
3 M	1,4-dioxane	0.113	0.119	-5.3	107	0.00	10.34
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	101	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.701	11.4	88	0.00	3.87
8 M	dichlorodifluoromethane	0.686	0.583	15.0	83	0.00	3.83
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.267	22.2#	77	0.00	4.17
11 M	vinyl chloride	0.914	0.732	19.9	80	0.00	4.40
12 M	bromomethane	0.423	0.430	-1.7	104	0.00	4.98
13 M	chloroethane	0.408	0.393	3.7	94	0.00	5.15
14	vinyl bromide	0.571	0.509	10.9	86	0.00	5.44
15 M	trichlorofluoromethane	0.785	0.692	11.8	87	0.00	5.53
16	1,3-butadiene	0.751	0.896	-19.3	105	0.00	4.46
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.276	2.1	91	0.00	5.88
20	2-chloropropane	0.191	0.180	5.8	88	0.00	6.08
21 M	acrolein	0.113	0.102	9.7	92	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.439	5.2	90	0.00	6.25
23 M	acetone	0.055	0.051	7.3	85	0.00	6.26
24 M	allyl chloride	20.000	16.003	True	Calc.	% Drift	-----
25 M	acetonitrile	0.032	0.032	AvgRF	CCRF	% Dev	-----
26 M	iodomethane	0.952	0.953	0.0	102	0.00	6.62
27 M	carbon disulfide	1.467	1.508	-0.1	95	-0.03	6.48
28 M	methylene chloride	0.521	0.512	-2.8	91	0.00	6.61
29 M	methyl acetate	0.078	0.074	1.7	95	0.00	6.87
30	1-chloropropane			5.1	92	0.00	6.65
31 M	methyl tert butyl ether	1.421	1.334	-----NA-----			
32 M	trans-1,2-dichloroethene	0.466	0.461	6.1	91	0.00	7.17
33 M	di-isopropyl ether	1.974	1.827	1.1	95	0.00	7.21
34 M	2-butanone	1.974	1.827	7.4	92	0.00	7.70
35 M	1,1-dichloroethane	0.060	0.060	0.0	94	0.00	8.31
36 M	chloroprene	0.941	0.918	2.4	95	0.00	7.73
37 M	acrylonitrile	0.762	0.696	8.7	88	0.00	7.82
		0.201	0.195	3.0	93	0.00	7.13

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69310.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.087	6.5	92	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.517	9.4	89	0.00	8.11
40 M	ethyl acetate	0.086	0.085	1.2	96	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.500	-7.1	99	0.00	8.40
42 M	cis-1,2-dichloroethene	0.521	0.525	-0.8	97	0.00	8.37
43	methylacrylate	0.075	0.073	2.7	94	0.00	8.39
44 M	propionitrile	0.074	0.074	0.0	97	0.00	8.39
45 M	bromochloromethane	0.260	0.267	-2.7	95	0.00	8.64
46 M	tetrahydrofuran	0.176	0.161	8.5	89	0.00	8.66
47 M	chloroform	0.568	0.544	4.2	96	0.00	8.71
48 M	T-BUTYL FORMATE	0.410	0.374	8.8	85	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.432	-2.4	102	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.462	-1.1	102	0.00	9.29
51 M	freon 113	0.397	0.361	9.1	86	0.00	6.25
52 M	methacrylonitrile	0.369	0.338	8.4	94	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.649	1.5	94	0.00	8.96
54 M	cyclohexane	0.676	0.623	7.8	86	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	9.71
57 M	epichlorohydrin	0.038	0.037	2.6	92	0.00	10.87
58 M	n-butyl alcohol	0.012	0.012	0.0	101	0.00	9.75
59 M	carbon tetrachloride	0.420	0.417	0.7	93	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.463	5.5	91	0.00	9.11
61 M	hexane	0.574	0.525	8.5	85	0.00	7.52
62	Tert Amyl alcohol	0.019	0.018	5.3	96	0.00	9.21
63 M	benzene	1.432	1.347	5.9	94	0.00	9.34
64 m	iso-octane	1.526	1.418	7.1	89	0.00	9.42
65 M	tert-amyl methyl ether	0.223	0.213	4.5	91	0.00	9.40
66 M	heptane	0.361	0.315	12.7	85	0.00	9.55
67 M	isopropyl acetate	0.148	0.136	8.1	88	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.456	0.4	97	0.00	9.37
69 M	trichloroethene	0.359	0.357	0.6	95	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.420	10.1	89	0.00	9.99
72 M	2-nitropropane	0.144	0.137	4.9	92	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.225	7.0	92	0.00	10.77
74 M	methyl methacrylate	0.100	0.095	5.0	91	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.390	-0.3	95	0.00	10.30
76 M	dibromomethane	0.231	0.228	1.3	98	0.00	10.41
77 M	methylcyclohexane	0.600	0.548	8.7	86	0.00	10.30
78 M	bromodichloromethane	0.467	0.485	-3.9	99	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.611	2.1	92	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.149	0.5	100	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.149	6.3	93	0.00	11.09
82 M	toluene	0.907	0.837	7.7	93	0.00	11.39
83 M	3-methyl-1-butanol	0.016	0.018	-12.5	107	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.521	3.5	92	0.00	11.58
85 M	ethyl methacrylate	0.495	0.450	9.1	88	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.283	2.4	97	0.00	11.81
87 M	2-hexanone	0.163	0.155	4.9	92	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	100	0.00	12.91
89 M	tetrachloroethene	0.411	0.371	9.7	94	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.582	7.8	96	0.00	12.00
91 M	butyl acetate	0.291	0.262	10.0	89	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.038	-5.6	105	0.00	12.15
93 M	dibromochloromethane	0.394	0.404	-2.5	97	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.385	7.0	95	0.00	12.43
95	n-butyl ether	1.882	1.617	14.1	87	0.00	12.88

6.9.5
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Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69310.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.026	8.1	94	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.382	3.8	96	0.00	13.01
98 M	ethylbenzene	1.860	1.703	8.4	93	0.00	13.00
99 M	m,p-xylene	0.729	0.665	8.8	93	0.00	13.14
100 M	o-xylene	0.730	0.684	6.3	93	0.00	13.57
101 M	styrene	1.276	1.160	9.1	93	0.00	13.59

		True	Calc.	% Drift			
102 M	bromoform	20.000	17.049	14.8	96	0.00	13.85

		AvgRF	CCRF	% Dev			
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	15.48
104 M	isopropylbenzene	3.278	3.045	7.1	91	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.816	0.4	99	0.00	14.18
106	cyclohexanone	0.161	0.131	18.6	80	0.00	14.11
107 M	bromobenzene	0.950	0.898	5.5	96	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.860	4.3	94	0.00	14.27

		True	Calc.	% Drift			
109 M	trans-1,4-dichloro-2-bute			NA			

		AvgRF	CCRF	% Dev			
110 M	1,2,3-trichloropropane	0.225	0.217	3.6	93	0.00	14.36
111 M	n-propylbenzene	3.774	3.606	4.5	92	0.00	14.41
112	4-ETHYL TOLUENE			NA			
113 M	2-chlorotoluene	0.823	0.775	5.8	93	0.00	14.56
114 M	4-chlorotoluene	2.343	2.257	3.7	94	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.552	5.1	92	0.00	14.58
116 M	tert-butylbenzene	2.480	2.310	6.9	91	0.00	14.97
117 M	pentachloroethane	0.526	0.538	-2.3	94	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.670	2.4	93	0.00	15.02
119 M	sec-butylbenzene	3.680	3.489	5.2	90	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.724	2.9	95	0.00	15.40
121 M	p-isopropyltoluene	3.201	3.099	3.2	91	0.00	15.36
122 M	1,4-dichlorobenzene	1.730	1.666	3.7	94	0.00	15.51
123	benzyl chloride	1.530	1.367	10.7	80	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.697	1.6	93	0.00	15.92
125	1,4-DIETHYLBENZENE			NA			
126 M	n-butylbenzene	1.695	1.648	2.8	90	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			NA			
128 M	1,2-dibromo-3-chloropropane	0.153	0.153	0.0	97	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.553	-2.0	93	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.318	2.8	88	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.762	4.2	90	0.00	17.77
132 M	naphthalene	2.451	2.280	7.0	88	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.119	6.2	88	0.00	18.21
134 m	hexachloroethane	0.599	0.520	13.2	84	0.00	16.25

		True	Calc.	% Drift			
135	2-ethylhexyl acrylate	4.000	3.386	15.3	90	0.00	17.66

		AvgRF	CCRF	% Dev			
136	2-methylnaphthalene	0.593	0.425	28.3#	73	0.00	19.28

		True	Calc.	% Drift			
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	109	0.00	8.84

		True	Calc.	% Drift			
138	Freon 142B			NA			

6.9.5
6.9.6

Continuing Calibration Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2853-CC2825

Lab FileID: 4B69310.D

(#) = Out of Range
4B68757.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Thu Feb 16 12:14:12 2017

6.9.5

6

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69311.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69311.D Vial: 7
 Acq On : 15 Feb 2017 11:28 am Operator: Hueanht
 Sample : cc2825-20 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	104	0.00	6.81
2 M	tertiary butyl alcohol	1.304	1.247	4.4	101	0.00	6.91
3 M	1,4-dioxane	0.113	0.110	2.7	100	0.00	10.35
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	101	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.686	13.3	86	0.00	3.87
8 M	dichlorodifluoromethane	0.686	0.585	14.7	84	0.00	3.83
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.270	21.3#	78	0.00	4.17
11 M	vinyl chloride	0.914	0.728	20.4#	79	0.00	4.40
12 M	bromomethane	0.423	0.427	-0.9	103	0.00	4.98
13 M	chloroethane	0.408	0.388	4.9	93	0.00	5.15
14	vinyl bromide	0.571	0.514	10.0	87	0.00	5.45
15 M	trichlorofluoromethane	0.785	0.680	13.4	86	0.00	5.53
16	1,3-butadiene	0.751	0.909	-21.0#	106	0.00	4.47
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.288	-2.1	95	0.00	5.88
20	2-chloropropane	0.191	0.180	5.8	88	0.00	6.08
21 M	acrolein	0.113	0.107	5.3	97	0.00	6.08
22 M	1,1-dichloroethene	0.463	0.440	5.0	90	0.00	6.25
23 M	acetone	0.055	0.052	5.5	88	0.00	6.26
24 M	allyl chloride	20.000	15.487	True Calc.	% Drift	-----	-----
				22.6#	92	0.00	6.71
25 M	acetonitrile	0.032	0.033	-3.1	106	0.00	6.63
26 M	iodomethane	0.952	0.955	-0.3	96	-0.03	6.48
27 M	carbon disulfide	1.467	1.530	-4.3	93	0.00	6.61
28 M	methylene chloride	0.521	0.510	2.1	95	0.00	6.87
29 M	methyl acetate	0.078	0.082	-5.1	102	0.00	6.65
30	1-chloropropane			-----NA-----			
31 M	methyl tert butyl ether	1.421	1.367	3.8	93	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.459	1.5	94	0.00	7.21
33 M	di-isopropyl ether	1.974	1.835	7.0	92	0.00	7.70
34 M	2-butanone	0.060	0.061	-1.7	96	0.00	8.31
35 M	1,1-dichloroethane	0.941	0.922	2.0	95	0.00	7.73
36 M	chloroprene	0.762	0.696	8.7	88	0.00	7.82
37 M	acrylonitrile	0.201	0.201	0.0	96	0.00	7.13

6.6.9
6

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69311.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.091	2.2	96	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.533	8.4	90	0.00	8.11
40 M	ethyl acetate	0.086	0.086	0.0	97	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.497	-6.4	99	0.00	8.40
42 M	cis-1,2-dichloroethene	0.521	0.527	-1.2	97	0.00	8.37
43	methylacrylate	0.075	0.075	0.0	97	0.00	8.39
44 M	propionitrile	0.074	0.076	-2.7	100	0.00	8.39
45 M	bromochloromethane	0.260	0.270	-3.8	96	0.00	8.64
46 M	tetrahydrofuran	0.176	0.178	-1.1	99	0.00	8.66
47 M	chloroform	0.568	0.557	1.9	98	0.00	8.72
48 M	T-BUTYL FORMATE	0.410	0.383	6.6	87	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.432	-2.4	103	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.468	-2.4	103	0.00	9.29
51 M	freon 113	0.397	0.364	8.3	87	0.00	6.26
52 M	methacrylonitrile	0.369	0.348	5.7	97	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.652	1.1	94	0.00	8.96
54 M	cyclohexane	0.676	0.635	6.1	87	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	9.72
57 M	epichlorohydrin	0.038	0.039	-2.6	96	0.00	10.87
58 M	n-butyl alcohol	0.012	0.013	-8.3	105	0.00	9.75
59 M	carbon tetrachloride	0.420	0.420	0.0	94	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.469	4.3	93	0.00	9.11
61 M	hexane	0.574	0.523	8.9	85	0.00	7.52
62	Tert Amyl alcohol	0.019	0.019	0.0	101	0.00	9.21
63 M	benzene	1.432	1.354	5.4	95	0.00	9.34
64 m	iso-octane	1.526	1.424	6.7	90	0.00	9.42
65 M	tert-amyl methyl ether	0.223	0.219	1.8	94	0.00	9.40
66 M	heptane	0.361	0.316	12.5	86	0.00	9.55
67 M	isopropyl acetate	0.148	0.139	6.1	91	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.466	-1.7	99	0.00	9.37
69 M	trichloroethene	0.359	0.362	-0.8	96	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.441	5.6	93	0.00	9.99
72 M	2-nitropropane	0.144	0.141	2.1	95	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.228	5.8	93	0.00	10.77
74 M	methyl methacrylate	0.100	0.099	1.0	95	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.397	-2.1	97	0.00	10.30
76 M	dibromomethane	0.231	0.230	0.4	99	0.00	10.41
77 M	methylcyclohexane	0.600	0.546	9.0	86	0.00	10.30
78 M	bromodichloromethane	0.467	0.489	-4.7	100	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.618	1.0	93	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.149	0.5	100	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.158	0.6	99	0.00	11.10
82 M	toluene	0.907	0.839	7.5	94	0.00	11.39
83 M	3-methyl-1-butanol	0.016	0.019	-18.7	109	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.525	2.8	93	0.00	11.58
85 M	ethyl methacrylate	0.495	0.469	5.3	92	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.288	0.7	98	0.00	11.81
87 M	2-hexanone	0.163	0.164	-0.6	98	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	12.91
89 M	tetrachloroethene	0.411	0.379	7.8	97	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.590	6.5	99	0.00	12.00
91 M	butyl acetate	0.291	0.269	7.6	92	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.038	-5.6	109	0.00	12.15
93 M	dibromochloromethane	0.394	0.409	-3.8	99	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.394	4.8	98	0.00	12.43
95	n-butyl ether	1.882	1.637	13.0	89	0.00	12.88

6.9.6
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Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69311.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.027	8.0	95	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.382	3.8	97	0.00	13.01
98 M	ethylbenzene	1.860	1.703	8.4	94	0.00	13.00
99 M	m,p-xylene	0.729	0.666	8.6	94	0.00	13.13
100 M	o-xylene	0.730	0.692	5.2	95	0.00	13.57
101 M	styrene	1.276	1.174	8.0	95	0.00	13.59

		True	Calc.	% Drift			
102 M	bromoform	20.000	17.242	13.8	98	0.00	13.85

		AvgRF	CCRF	% Dev			
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	15.48
104 M	isopropylbenzene	3.278	3.074	6.2	92	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.824	-0.6	100	0.00	14.18
106	cyclohexanone	0.161	0.134	16.8	81	0.00	14.11
107 M	bromobenzene	0.950	0.923	2.8	98	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.902	-0.3	99	0.00	14.27

		True	Calc.	% Drift			
109 M	trans-1,4-dichloro-2-bute			NA			

		AvgRF	CCRF	% Dev			
110 M	1,2,3-trichloropropane	0.225	0.223	0.9	96	0.00	14.36
111 M	n-propylbenzene	3.774	3.694	2.1	94	0.00	14.41
112	4-ETHYL TOLUENE			NA			
113 M	2-chlorotoluene	0.823	0.794	3.5	95	0.00	14.56
114 M	4-chlorotoluene	2.343	2.300	1.8	96	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.581	4.0	93	0.00	14.59
116 M	tert-butylbenzene	2.480	2.365	4.6	93	0.00	14.97
117 M	pentachloroethane	0.526	0.552	-4.9	97	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.715	0.7	94	0.00	15.02
119 M	sec-butylbenzene	3.680	3.561	3.2	92	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.750	1.5	96	0.00	15.41
121 M	p-isopropyltoluene	3.201	3.138	2.0	91	0.00	15.36
122 M	1,4-dichlorobenzene	1.730	1.684	2.7	95	0.00	15.51
123	benzyl chloride	1.530	1.402	8.4	82	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.722	0.1	95	0.00	15.92
125	1,4-DIETHYLBENZENE			NA			
126 M	n-butylbenzene	1.695	1.662	1.9	91	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			NA			
128 M	1,2-dibromo-3-chloropropane	0.153	0.158	-3.3	100	0.00	16.78
129	1,3,5-TRICHLOROBENZENE	1.523	1.553	-2.0	92	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.346	0.7	90	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.760	4.4	90	0.00	17.77
132 M	naphthalene	2.451	2.368	3.4	91	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.158	2.9	91	0.00	18.21
134 m	hexachloroethane	0.599	0.514	14.2	82	0.00	16.25

		True	Calc.	% Drift			
135	2-ethylhexyl acrylate	4.000	3.208	19.8	82	0.00	17.66

		AvgRF	CCRF	% Dev			
136	2-methylnaphthalene	0.593	0.436	26.5#	75	0.00	19.27

		True	Calc.	% Drift			
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	109	0.00	8.84

		True	Calc.	% Drift			
138	Freon 142B			NA			

6.9.6
6

Continuing Calibration Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2853-CC2825

Lab FileID: 4B69311.D

(#) = Out of Range
4B68757.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Thu Feb 16 12:14:14 2017

6.9.6

Continuing Calibration Summary

Page 1 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69312.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

sensitivity check for vinyl chloride

Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69312.D Vial: 8
 Acq On : 15 Feb 2017 12:02 pm Operator: Hueanht
 Sample : cc2825-0.5 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	103	0.00	6.81
2 M	tertiary butyl alcohol		-----	NA			
3 M	1,4-dioxane		-----	NA			
4	Ethanol		-----	NA			
5 I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	8.84
6	CHLOROTRIFLUOROETHENE		-----	NA			
7 M	chlorodifluoromethane		-----	NA			
8 M	dichlorodifluoromethane		-----	NA			
9	Freon 114		-----	NA			
10 M	chloromethane		-----	NA			
11 M	vinyl chloride	0.914	0.696	23.9	76	0.00	4.40
12 M	bromomethane		-----	NA			
13 M	chloroethane		-----	NA			
14	vinyl bromide		-----	NA			
15 M	trichlorofluoromethane		-----	NA			
16	1,3-butadiene		-----	NA			
17	Pentane		-----	NA			
18	freon 123a		-----	NA			
19 M	ethyl ether		-----	NA			
20	2-chloropropane		-----	NA			
21 M	acrolein		-----	NA			
22 M	1,1-dichloroethene		-----	NA			
23 M	acetone		-----	NA			
24 M	allyl chloride		-----	True	Calc.	% Drift	-----
25 M	acetonitrile		-----	-----	NA	-----	
26 M	iodomethane		-----	-----	NA	-----	
27 M	carbon disulfide		-----	-----	NA	-----	
28 M	methylene chloride		-----	-----	NA	-----	
29 M	methyl acetate		-----	-----	NA	-----	
30	1-chloropropane		-----	-----	NA	-----	
31 M	methyl tert butyl ether		-----	-----	NA	-----	
32 M	trans-1,2-dichloroethene		-----	-----	NA	-----	
33 M	di-isopropyl ether		-----	-----	NA	-----	
34 M	2-butanone		-----	-----	NA	-----	
35 M	1,1-dichloroethane		-----	-----	NA	-----	
36 M	chloroprene		-----	-----	NA	-----	
37 M	acrylonitrile		-----	-----	NA	-----	
38 M	vinyl acetate		-----	-----	NA	-----	

6.9.7

6

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69312.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

39 M	ethyl tert-butyl ether		-----	-NA-----				
40 M	ethyl acetate		-----	-NA-----				
41 M	2,2-dichloropropane		-----	-NA-----				
42 M	cis-1,2-dichloroethene		-----	-NA-----				
43	methylacrylate		-----	-NA-----				
44 M	propionitrile		-----	-NA-----				
45 M	bromochloromethane		-----	-NA-----				
46 M	tetrahydrofuran		-----	-NA-----				
47 M	chloroform		-----	-NA-----				
48 M	T-BUTYL FORMATE		-----	-NA-----				
49 S	dibromofluoromethane (s)	0.422	0.427	-1.2 104	0.00	8.89		
50 S	1,2-dichloroethane-d4 (s)	0.457	0.466	-2.0 103	0.00	9.29		
51 M	freon 113		-----	-NA-----				
52 M	methacrylonitrile		-----	-NA-----				
53 M	1,1,1-trichloroethane		-----	-NA-----				
54 M	cyclohexane		-----	-NA-----				
55	iso-butyl alcohol		-----	-NA-----				
56 I	1,4-difluorobenzene	1.000	1.000	0.0 101	0.00	9.71		
57 M	epichlorohydrin		-----	-NA-----				
58 M	n-butyl alcohol		-----	-NA-----				
59 M	carbon tetrachloride		-----	-NA-----				
60 M	1,1-dichloropropene		-----	-NA-----				
61 M	hexane		-----	-NA-----				
62	Tert Amyl alcohol		-----	-NA-----				
63 M	benzene		-----	-NA-----				
64 m	iso-octane		-----	-NA-----				
65 M	tert-amyl methyl ether		-----	-NA-----				
66 M	heptane		-----	-NA-----				
67 M	isopropyl acetate		-----	-NA-----				
68 M	1,2-dichloroethane		-----	-NA-----				
69 M	trichloroethene		-----	-NA-----				
70	Tert-amyl Ethyl Ether		-----	-NA-----				
71	ethyl acrylate		-----	-NA-----				
72 M	2-nitropropane		-----	-NA-----				
73 M	2-chloroethyl vinyl ether		-----	-NA-----				
74 M	methyl methacrylate		-----	-NA-----				
75 M	1,2-dichloropropane		-----	-NA-----				
76 M	dibromomethane		-----	-NA-----				
77 M	methylcyclohexane		-----	-NA-----				
78 M	bromodichloromethane		-----	-NA-----				
79 M	cis-1,3-dichloropropene		-----	-NA-----				
80 S	toluene-d8 (s)	1.155	1.151	0.3 101	0.00	11.31		
81 M	4-methyl-2-pentanone		-----	-NA-----				
82 M	toluene		-----	-NA-----				
83 M	3-methyl-1-butanol		-----	-NA-----				
84 M	trans-1,3-dichloropropene		-----	-NA-----				
85 M	ethyl methacrylate		-----	-NA-----				
86 M	1,1,2-trichloroethane		-----	-NA-----				
87 M	2-hexanone		-----	-NA-----				
88 I	chlorobenzene-d5	1.000	1.000	0.0 101	0.00	12.91		
89 M	tetrachloroethene		-----	-NA-----				
90 M	1,3-dichloropropane		-----	-NA-----				
91 M	butyl acetate		-----	-NA-----				
92 M	3,3-DIMETHYL-1-BUTANOL		-----	-NA-----				
93 M	dibromochloromethane		-----	-NA-----				
94 M	1,2-dibromoethane		-----	-NA-----				
95	n-butyl ether		-----	-NA-----				
96 M	chlorobenzene		-----	-NA-----				

6.9.7
6

Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69312.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

97 M	1,1,1,2-tetrachloroethane		-----	NA	-----			
98 M	ethylbenzene		-----	NA	-----			
99 M	m,p-xylene		-----	NA	-----			
100 M	o-xylene		-----	NA	-----			
101 M	styrene		-----	NA	-----			
		----- True	-----	Calc.	% Drift	-----		
102 M	bromoform		-----	NA	-----			
		----- AvgRF	CCRF	% Dev	-----			
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	15.48	
104 M	isopropylbenzene		-----	NA	-----			
105 S	4-bromofluorobenzene (s)	0.819	0.839	-2.4	99	0.00	14.18	
106	cyclohexanone		-----	NA	-----			
107 M	bromobenzene		-----	NA	-----			
108 M	1,1,2,2-tetrachloroethane		-----	NA	-----			
		----- True	-----	Calc.	% Drift	-----		
109 M	trans-1,4-dichloro-2-bute		-----	NA	-----			
		----- AvgRF	CCRF	% Dev	-----			
110 M	1,2,3-trichloropropane		-----	NA	-----			
111 M	n-propylbenzene		-----	NA	-----			
112	4-ETHYLtoluene		-----	NA	-----			
113 M	2-chlorotoluene		-----	NA	-----			
114 M	4-chlorotoluene		-----	NA	-----			
115 M	1,3,5-trimethylbenzene		-----	NA	-----			
116 M	tert-butylbenzene		-----	NA	-----			
117 M	pentachloroethane		-----	NA	-----			
118 M	1,2,4-trimethylbenzene		-----	NA	-----			
119 M	sec-butylbenzene		-----	NA	-----			
120 M	1,3-dichlorobenzene		-----	NA	-----			
121 M	p-isopropyltoluene		-----	NA	-----			
122 M	1,4-dichlorobenzene		-----	NA	-----			
123	benzyl chloride		-----	NA	-----			
124 M	1,2-dichlorobenzene		-----	NA	-----			
125	1,4-DIETHYLBENZENE		-----	NA	-----			
126 M	n-butylbenzene		-----	NA	-----			
127	1,2,4,5-TETRAMETHYLBENZEN		-----	NA	-----			
128 M	1,2-dibromo-3-chloropropa		-----	NA	-----			
129	1,3,5-TRICHLOROBENZENE		-----	NA	-----			
130 M	1,2,4-trichlorobenzene		-----	NA	-----			
131 M	hexachlorobutadiene		-----	NA	-----			
132 M	naphthalene		-----	NA	-----			
133 M	1,2,3-trichlorobenzene		-----	NA	-----			
134 m	hexachloroethane		-----	NA	-----			
		----- True	-----	Calc.	% Drift	-----		
135	2-ethylhexyl acrylate		-----	NA	-----			
		----- AvgRF	CCRF	% Dev	-----			
136	2-methylnaphthalene		-----	NA	-----			
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	0#	0.00	8.84	
		----- True	-----	Calc.	% Drift	-----		
138	Freon 142B		-----	NA	-----			

6.9.7
6

Continuing Calibration Summary

Page 4 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69312.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

(#) = Out of Range
4B68763.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Thu Feb 16 12:16:27 2017

6.9.7

6

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69313.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

sensitivity check for chloromethane

Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69313.D Vial: 9
 Acq On : 15 Feb 2017 12:30 pm Operator: Hueanht
 Sample : cc2825-1 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	104	0.00	6.81
2 M	tertiary butyl alcohol		-----	NA			
3 M	1,4-dioxane		-----	NA			
4	Ethanol		-----	NA			
5 I	pentafluorobenzene	1.000	1.000	0.0	101	0.00	8.84
6	CHLOROTRIFLUOROETHENE		-----	NA			
7 M	chlorodifluoromethane		-----	NA			
8 M	dichlorodifluoromethane		-----	NA			
9	Freon 114		-----	NA			
10 M	chloromethane	0.343	0.309	9.9	94	0.00	4.18
11 M	vinyl chloride		-----	NA			
12 M	bromomethane		-----	NA			
13 M	chloroethane		-----	NA			
14	vinyl bromide		-----	NA			
15 M	trichlorofluoromethane		-----	NA			
16	1,3-butadiene		-----	NA			
17	Pentane		-----	NA			
18	freon 123a		-----	NA			
19 M	ethyl ether		-----	NA			
20	2-chloropropane		-----	NA			
21 M	acrolein		-----	NA			
22 M	1,1-dichloroethene		-----	NA			
23 M	acetone		-----	NA			
24 M	allyl chloride		-----	True	Calc.	% Drift	-----
25 M	acetonitrile		-----	-----	NA	-----	
26 M	iodomethane		-----	-----	NA	-----	
27 M	carbon disulfide		-----	-----	NA	-----	
28 M	methylene chloride		-----	-----	NA	-----	
29 M	methyl acetate		-----	-----	NA	-----	
30	1-chloropropane		-----	-----	NA	-----	
31 M	methyl tert butyl ether		-----	-----	NA	-----	
32 M	trans-1,2-dichloroethene		-----	-----	NA	-----	
33 M	di-isopropyl ether		-----	-----	NA	-----	
34 M	2-butanone		-----	-----	NA	-----	
35 M	1,1-dichloroethane		-----	-----	NA	-----	
36 M	chloroprene		-----	-----	NA	-----	
37 M	acrylonitrile		-----	-----	NA	-----	
38 M	vinyl acetate		-----	-----	NA	-----	

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69313.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

39 M	ethyl tert-butyl ether		-----	-NA-----				
40 M	ethyl acetate		-----	-NA-----				
41 M	2,2-dichloropropane		-----	-NA-----				
42 M	cis-1,2-dichloroethene		-----	-NA-----				
43	methylacrylate		-----	-NA-----				
44 M	propionitrile		-----	-NA-----				
45 M	bromochloromethane		-----	-NA-----				
46 M	tetrahydrofuran		-----	-NA-----				
47 M	chloroform		-----	-NA-----				
48 M	T-BUTYL FORMATE		-----	-NA-----				
49 S	dibromofluoromethane (s)	0.422	0.431	-2.1	105	0.00	8.89	
50 S	1,2-dichloroethane-d4 (s)	0.457	0.473	-3.5	102	0.00	9.29	
51 M	freon 113		-----	-NA-----				
52 M	methacrylonitrile		-----	-NA-----				
53 M	1,1,1-trichloroethane		-----	-NA-----				
54 M	cyclohexane		-----	-NA-----				
55	iso-butyl alcohol		-----	-NA-----				
56 I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	9.71	
57 M	epichlorohydrin		-----	-NA-----				
58 M	n-butyl alcohol		-----	-NA-----				
59 M	carbon tetrachloride		-----	-NA-----				
60 M	1,1-dichloropropene		-----	-NA-----				
61 M	hexane		-----	-NA-----				
62	Tert Amyl alcohol		-----	-NA-----				
63 M	benzene		-----	-NA-----				
64 m	iso-octane		-----	-NA-----				
65 M	tert-amyl methyl ether		-----	-NA-----				
66 M	heptane		-----	-NA-----				
67 M	isopropyl acetate		-----	-NA-----				
68 M	1,2-dichloroethane		-----	-NA-----				
69 M	trichloroethene		-----	-NA-----				
70	Tert-amyl Ethyl Ether		-----	-NA-----				
71	ethyl acrylate		-----	-NA-----				
72 M	2-nitropropane		-----	-NA-----				
73 M	2-chloroethyl vinyl ether		-----	-NA-----				
74 M	methyl methacrylate		-----	-NA-----				
75 M	1,2-dichloropropane		-----	-NA-----				
76 M	dibromomethane		-----	-NA-----				
77 M	methylcyclohexane		-----	-NA-----				
78 M	bromodichloromethane		-----	-NA-----				
79 M	cis-1,3-dichloropropene		-----	-NA-----				
80 S	toluene-d8 (s)	1.155	1.160	-0.4	102	0.00	11.31	
81 M	4-methyl-2-pentanone		-----	-NA-----				
82 M	toluene		-----	-NA-----				
83 M	3-methyl-1-butanol		-----	-NA-----				
84 M	trans-1,3-dichloropropene		-----	-NA-----				
85 M	ethyl methacrylate		-----	-NA-----				
86 M	1,1,2-trichloroethane		-----	-NA-----				
87 M	2-hexanone		-----	-NA-----				
88 I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	12.91	
89 M	tetrachloroethene		-----	-NA-----				
90 M	1,3-dichloropropane		-----	-NA-----				
91 M	butyl acetate		-----	-NA-----				
92 M	3,3-DIMETHYL-1-BUTANOL		-----	-NA-----				
93 M	dibromochloromethane		-----	-NA-----				
94 M	1,2-dibromoethane		-----	-NA-----				
95	n-butyl ether		-----	-NA-----				
96 M	chlorobenzene		-----	-NA-----				

6.9.8
6

Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69313.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

97 M	1,1,1,2-tetrachloroethane		-----	-NA-----				
98 M	ethylbenzene		-----	-NA-----				
99 M	m,p-xylene		-----	-NA-----				
100 M	o-xylene		-----	-NA-----				
101 M	styrene		-----	-NA-----				
		----- True	-----	-----	-----	-----	-----	-----
102 M	bromoform		-----	-NA-----				
		----- AvgRF	CCRF	% Dev				
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	15.48	
104 M	isopropylbenzene		-----	-NA-----				
105 S	4-bromofluorobenzene (s)	0.819	0.836	-2.1	99	0.00	14.18	
106	cyclohexanone		-----	-NA-----				
107 M	bromobenzene		-----	-NA-----				
108 M	1,1,2,2-tetrachloroethane		-----	-NA-----				
		----- True	-----	-----	-----	-----	-----	-----
109 M	trans-1,4-dichloro-2-bute		-----	-NA-----				
		----- AvgRF	CCRF	% Dev				
110 M	1,2,3-trichloropropane		-----	-NA-----				
111 M	n-propylbenzene		-----	-NA-----				
112	4-ETHYLtoluene		-----	-NA-----				
113 M	2-chlorotoluene		-----	-NA-----				
114 M	4-chlorotoluene		-----	-NA-----				
115 M	1,3,5-trimethylbenzene		-----	-NA-----				
116 M	tert-butylbenzene		-----	-NA-----				
117 M	pentachloroethane		-----	-NA-----				
118 M	1,2,4-trimethylbenzene		-----	-NA-----				
119 M	sec-butylbenzene		-----	-NA-----				
120 M	1,3-dichlorobenzene		-----	-NA-----				
121 M	p-isopropyltoluene		-----	-NA-----				
122 M	1,4-dichlorobenzene		-----	-NA-----				
123	benzyl chloride		-----	-NA-----				
124 M	1,2-dichlorobenzene		-----	-NA-----				
125	1,4-DIETHYLBENZENE		-----	-NA-----				
126 M	n-butylbenzene		-----	-NA-----				
127	1,2,4,5-TETRAMETHYLBENZEN		-----	-NA-----				
128 M	1,2-dibromo-3-chloropropa		-----	-NA-----				
129	1,3,5-TRICHLOROBENZENE		-----	-NA-----				
130 M	1,2,4-trichlorobenzene		-----	-NA-----				
131 M	hexachlorobutadiene		-----	-NA-----				
132 M	naphthalene		-----	-NA-----				
133 M	1,2,3-trichlorobenzene		-----	-NA-----				
134 m	hexachloroethane		-----	-NA-----				
		----- True	-----	-----	-----	-----	-----	-----
135	2-ethylhexyl acrylate		-----	-NA-----				
		----- AvgRF	CCRF	% Dev				
136	2-methylnaphthalene		-----	-NA-----				
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	111	0.00	8.84	
		----- True	-----	-----	-----	-----	-----	-----
138	Freon 142B		-----	-NA-----				

6.9.8
6

Continuing Calibration Summary

Page 4 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69313.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

(#) = Out of Range
4B68764.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Thu Feb 16 12:19:02 2017

6.9.8
6

Continuing Calibration Summary

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B6933.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69333.D Vial: 29
 Acq On : 15 Feb 2017 9:35 pm Operator: Hueanht
 Sample : cc2825-50 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	105	0.00	6.80
2 M	tertiary butyl alcohol	1.304	1.348	-3.4	109	0.00	6.91
3 M	1,4-dioxane	0.113	0.111	1.8	100	0.00	10.34
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	95	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.838	-5.9	98	0.00	3.87
8 M	dichlorodifluoromethane	0.686	0.639	6.9	81	0.00	3.83
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.307	10.5	83	0.00	4.17
11 M	vinyl chloride	0.914	0.828	9.4	83	0.00	4.40
12 M	bromomethane	0.423	0.465	-9.9	101	0.00	4.98
13 M	chloroethane	0.408	0.434	-6.4	95	0.00	5.15
14	vinyl bromide	0.571	0.577	-1.1	91	0.00	5.45
15 M	trichlorofluoromethane	0.785	0.774	1.4	88	0.00	5.53
16	1,3-butadiene	0.751	0.182	75.8#	21#	-0.03	4.44
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.290	-2.8	92	0.00	5.88
20	2-chloropropane	0.191	0.179	6.3	87	0.00	6.07
21 M	acrolein	0.113	0.114	-0.9	97	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.470	-1.5	91	0.00	6.25
23 M	acetone	0.055	0.044	20.0#	73	0.00	6.26
24 M	allyl chloride	50.000	47.775	True Calc.	% Drift		
25 M	acetonitrile	0.032	0.035	-9.4	108	0.00	6.62
26 M	iodomethane	0.952	0.976	-2.5	93	0.00	6.51
27 M	carbon disulfide	1.467	1.574	-7.3	90	0.00	6.62
28 M	methylene chloride	0.521	0.541	-3.8	96	0.00	6.87
29 M	methyl acetate	0.078	0.084	-7.7	98	0.00	6.65
30	1-chloropropane			-----NA-----			
31 M	methyl tert butyl ether	1.421	1.383	2.7	90	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.472	-1.3	93	0.00	7.21
33 M	di-isopropyl ether	1.974	1.937	1.9	95	0.00	7.70
34 M	2-butanone	0.060	0.057	5.0	87	0.00	8.31
35 M	1,1-dichloroethane	0.941	0.943	-0.2	94	0.00	7.73
36 M	chloroprene	0.762	0.773	-1.4	93	0.00	7.82
37 M	acrylonitrile	0.201	0.208	-3.5	97	0.00	7.13

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69333.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.098	-5.4	95	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.648	1.6	92	0.00	8.11
40 M	ethyl acetate	0.086	0.092	-7.0	96	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.456	2.4	89	0.00	8.39
42 M	cis-1,2-dichloroethene	0.521	0.536	-2.9	93	0.00	8.37
43	methylacrylate	0.075	0.079	-5.3	96	0.00	8.39
44 M	propionitrile	0.074	0.076	-2.7	102	0.00	8.39
45 M	bromochloromethane	0.260	0.281	-8.1	95	0.00	8.65
46 M	tetrahydrofuran	0.176	0.179	-1.7	98	0.00	8.66
47 M	chloroform	0.568	0.564	0.7	96	0.00	8.72
48 M	T-BUTYL FORMATE	0.410	0.421	-2.7	90	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.443	-5.0	98	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.481	-5.3	101	0.00	9.29
51 M	freon 113	0.397	0.384	3.3	85	0.00	6.26
52 M	methacrylonitrile	0.369	0.366	0.8	95	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.701	-6.4	94	0.00	8.96
54 M	cyclohexane	0.676	0.675	0.1	83	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	9.71
57 M	epichlorohydrin	0.038	0.041	-7.9	104	0.00	10.87
58 M	n-butyl alcohol	0.012	0.012	0.0	116	0.00	9.75
59 M	carbon tetrachloride	0.420	0.436	-3.8	93	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.475	3.1	91	0.00	9.11
61 M	hexane	0.574	0.513	10.6	78	0.00	7.52
62	Tert Amyl alcohol	0.019	0.018	5.3	102	0.00	9.21
63 M	benzene	1.432	1.369	4.4	93	0.00	9.34
64 m	iso-octane	1.526	1.356	11.1	82	0.00	9.42
65 M	tert-amyl methyl ether	0.223	0.225	-0.9	94	0.00	9.40
66 M	heptane	0.361	0.313	13.3	79	0.00	9.55
67 M	isopropyl acetate	0.148	0.159	-7.4	97	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.463	-1.1	96	0.00	9.37
69 M	trichloroethene	0.359	0.365	-1.7	94	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.467	0.0	94	0.00	9.99
72 M	2-nitropropane	0.144	0.153	-6.3	101	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.250	-3.3	99	0.00	10.77
74 M	methyl methacrylate	0.100	0.102	-2.0	91	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.392	-0.8	95	0.00	10.30
76 M	dibromomethane	0.231	0.237	-2.6	97	0.00	10.41
77 M	methylcyclohexane	0.600	0.549	8.5	82	0.00	10.30
78 M	bromodichloromethane	0.467	0.514	-10.1	99	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.643	-3.0	92	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.159	-0.3	96	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.146	8.2	93	0.00	11.09
82 M	toluene	0.907	0.860	5.2	92	0.00	11.39
83 M	3-methyl-1-butanol	0.016	0.019	-18.7	118	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.564	-4.4	95	0.00	11.58
85 M	ethyl methacrylate	0.495	0.499	-0.8	93	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.305	-5.2	99	0.00	11.81
87 M	2-hexanone	0.163	0.146	10.4	88	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	12.91
89 M	tetrachloroethene	0.411	0.379	7.8	91	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.598	5.2	97	0.00	12.00
91 M	butyl acetate	0.291	0.299	-2.7	99	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.039	-8.3	114	0.00	12.15
93 M	dibromochloromethane	0.394	0.461	-17.0	100	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.418	-1.0	97	0.00	12.43
95	n-butyl ether	1.882	1.742	7.4	89	0.00	12.88



Continuing Calibration Summary

Page 3 of 4

Job Number: JC37024

Sample: V4B2853-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69333.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.067	4.4	94	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.404	-1.8	96	0.00	13.01
98 M	ethylbenzene	1.860	1.751	5.9	93	0.00	13.00
99 M	m,p-xylene	0.729	0.688	5.6	92	0.00	13.13
100 M	o-xylene	0.730	0.726	0.5	93	0.00	13.57
101 M	styrene	1.276	1.209	5.3	93	0.00	13.59
-----		True	Calc.	% Drift	-----	-----	-----
102 M	bromoform	50.000	51.166	-2.3	100	0.00	13.84

-----		AvgRF	CCRF	% Dev	-----	-----	-----
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	15.48
104 M	isopropylbenzene	3.278	3.065	6.5	92	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.816	0.4	99	0.00	14.18
106	cyclohexanone	0.161	0.043	73.3#	28#	0.00	14.11
107 M	bromobenzene	0.950	0.914	3.8	96	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.939	-4.4	101	0.00	14.27
-----		True	Calc.	% Drift	-----	-----	-----
109 M	trans-1,4-dichloro-2-bute	50.000	36.484	27.0#	74	0.00	14.30

-----		AvgRF	CCRF	% Dev	-----	-----	-----
110 M	1,2,3-trichloropropane	0.225	0.232	-3.1	101	0.00	14.36
111 M	n-propylbenzene	3.774	3.585	5.0	92	0.00	14.41
112	4-ETHYL TOLUENE			NA			
113 M	2-chlorotoluene	0.823	0.787	4.4	92	0.00	14.56
114 M	4-chlorotoluene	2.343	2.266	3.3	94	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.532	5.8	92	0.00	14.59
116 M	tert-butylbenzene	2.480	2.362	4.8	91	0.00	14.97
117 M	pentachloroethane	0.526	0.563	-7.0	98	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.661	2.7	93	0.00	15.02
119 M	sec-butylbenzene	3.680	3.529	4.1	90	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.717	3.3	95	0.00	15.41
121 M	p-isopropyltoluene	3.201	3.119	2.6	91	0.00	15.36
122 M	1,4-dichlorobenzene	1.730	1.699	1.8	94	0.00	15.51
123	benzyl chloride	1.530	1.430	6.5	80	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.706	1.0	95	0.00	15.92
125	1,4-DIETHYLBENZENE			NA			
126 M	n-butylbenzene	1.695	1.647	2.8	89	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			NA			
128 M	1,2-dibromo-3-chloropropane	0.153	0.176	-15.0	104	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.517	0.4	92	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.347	0.7	90	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.685	13.8	84	0.00	17.77
132 M	naphthalene	2.451	2.448	0.1	93	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.160	2.8	90	0.00	18.21
134 m	hexachloroethane	0.599	0.590	1.5	87	0.00	16.25
-----		True	Calc.	% Drift	-----	-----	-----
135	2-ethylhexyl acrylate	10.000	8.598	14.0	96	0.00	17.66

-----		AvgRF	CCRF	% Dev	-----	-----	-----
136	2-methylnaphthalene	0.593	0.548	7.6	82	0.00	19.27
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	99	0.00	8.84
-----		True	Calc.	% Drift	-----	-----	-----
138	Freon 142B			NA			



Continuing Calibration Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2853-CC2825

Lab FileID: 4B69333.D

(#) = Out of Range
4B68758.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Thu Feb 16 15:45:46 2017

6.9.9

6



ACCUTEST
New Jersey

Section 7

GC/MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69264.D
 Acq On : 14 Feb 2017 11:59 am
 Operator : Hueanht
 Sample : jc37024-1
 Misc : MS12540,V4B2850,5,,,,1
 ALS Vial : 8 Sample Multiplier: 1

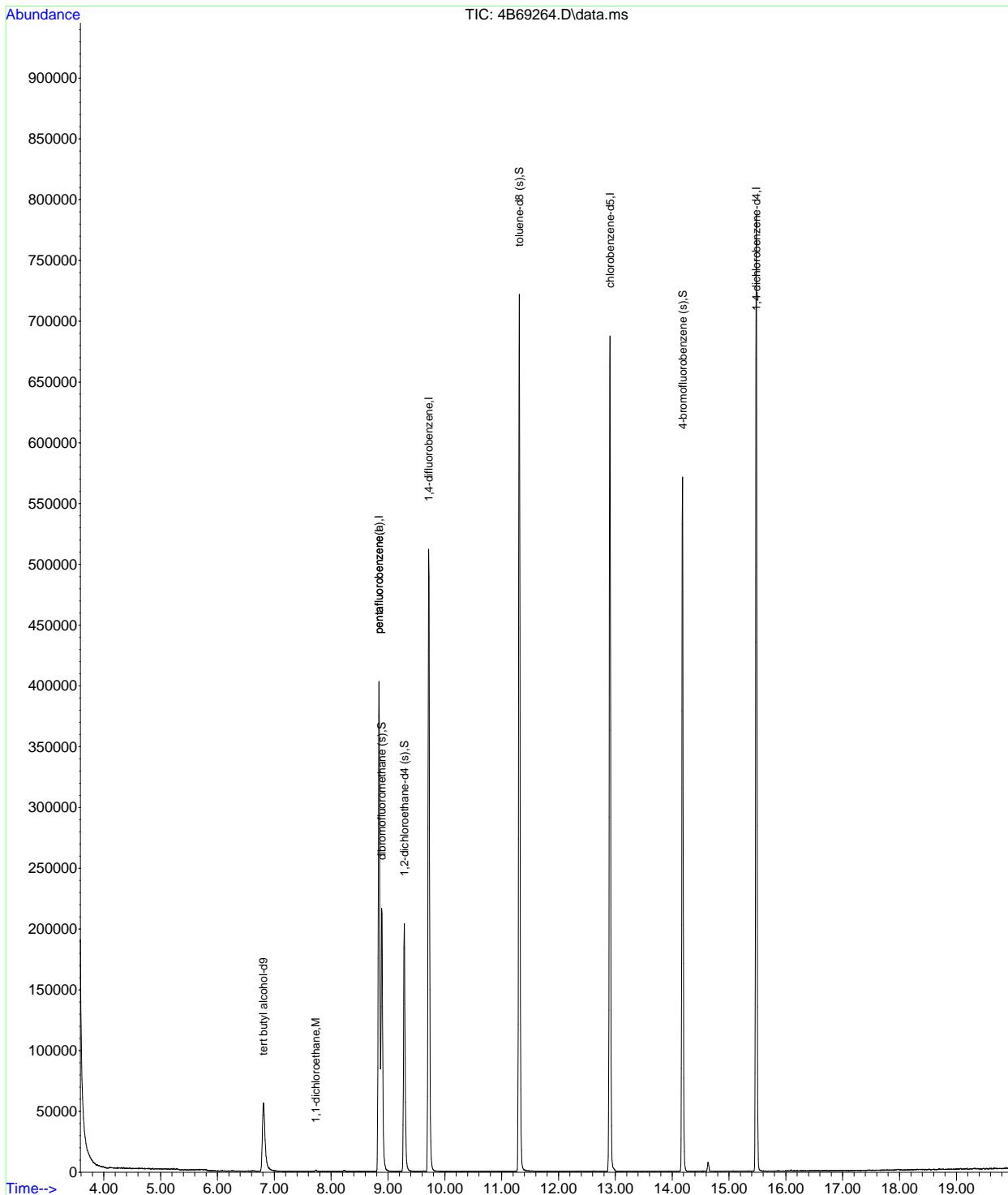
Quant Time: Feb 15 10:31:43 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

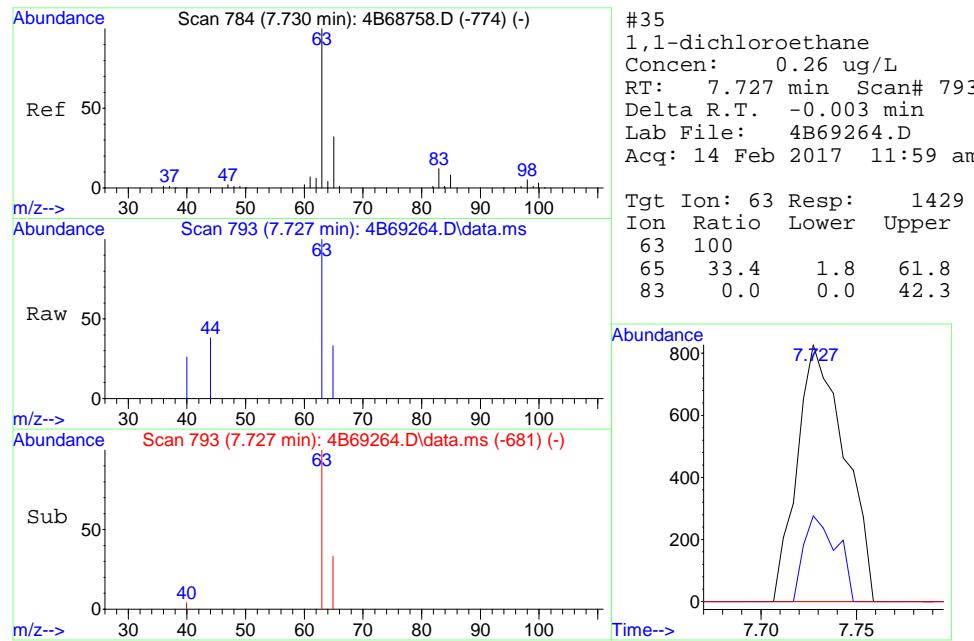
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	107157	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	295550	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	405249	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	379029	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	208153	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	295550	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	125800	50.40	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	100.80%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	138668	51.29	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	102.58%	
80) toluene-d8 (s)	11.310	98	469166	50.13	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.26%	
105) 4-bromofluorobenzene (s)	14.182	95	178520	52.38	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.76%	
Target Compounds						
35) 1,1-dichloroethane	7.727	63	1429	0.26	ug/L	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69264.D
 Acq On : 14 Feb 2017 11:59 am
 Operator : Hueanh
 Sample : jc37024-1
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 15 10:31:43 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration





Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69266.D
 Acq On : 14 Feb 2017 12:55 pm
 Operator : Hueanht
 Sample : jc37024-2
 Misc : MS12540,V4B2850,5,,,5
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 15 10:33:18 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

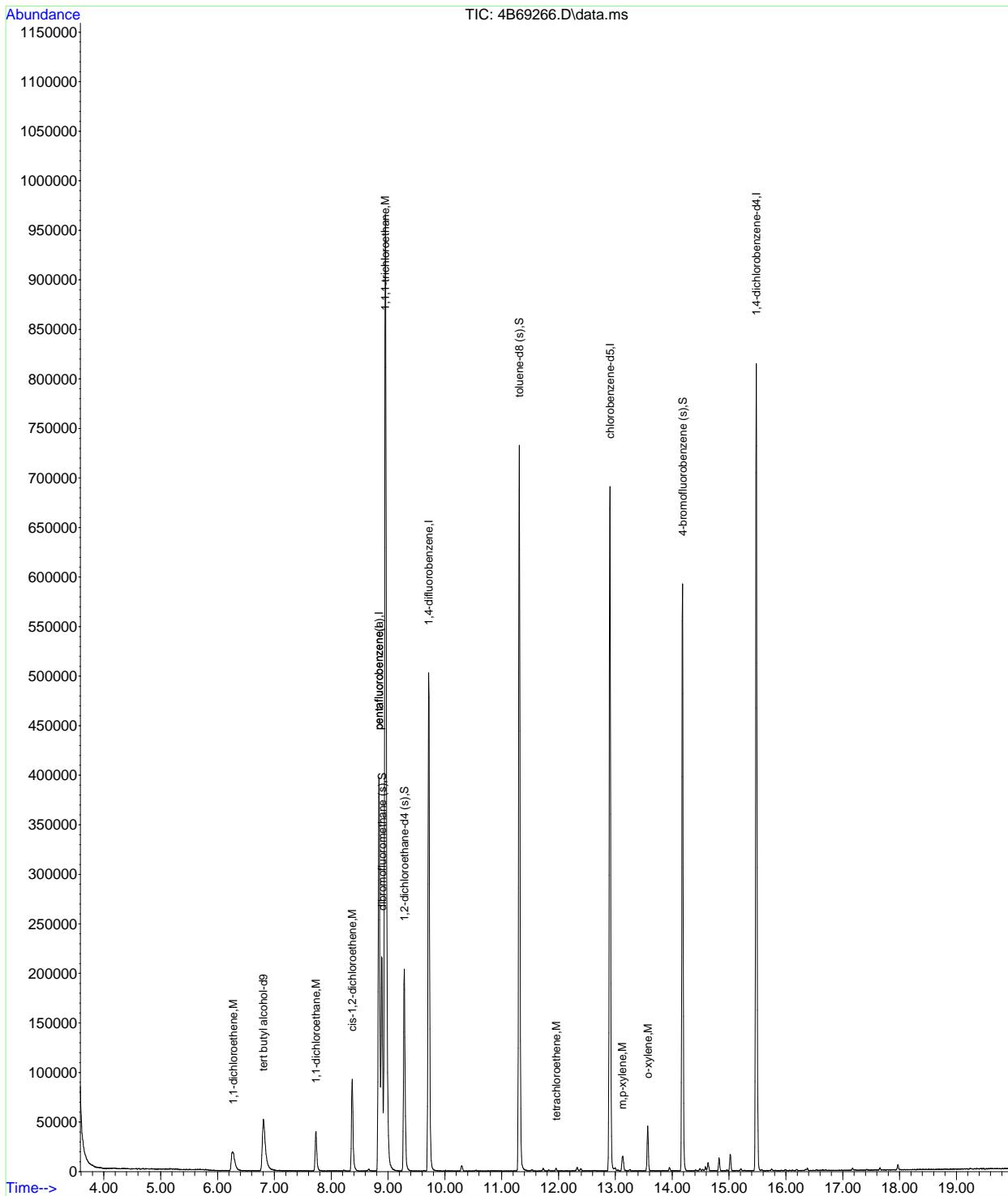
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	114356	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	293956	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	398678	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	379938	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	213743	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	293956	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	127055	51.18	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.36%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	137513	51.14	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	102.28%	
80) toluene-d8 (s)	11.310	98	469047	50.94	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.88%	
105) 4-bromofluorobenzene (s)	14.181	95	181196	51.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.54%	
Target Compounds						
22) 1,1-dichloroethene	6.273	96	17241	6.34	ug/L	97
35) 1,1-dichloroethane	7.733	63	42377	7.66	ug/L	99
42) cis-1,2-dichloroethene	8.371	96	41824	13.66	ug/L	99
53) 1,1,1-trichloroethane	8.951	97	702034	181.12	ug/L	98
89) tetrachloroethene	11.959	164	747	0.24	ug/L	# 86
99) m,p-xylene	13.120	106	5814	1.05	ug/L	100
100) o-xylene	13.570	106	12370	2.23	ug/L	93

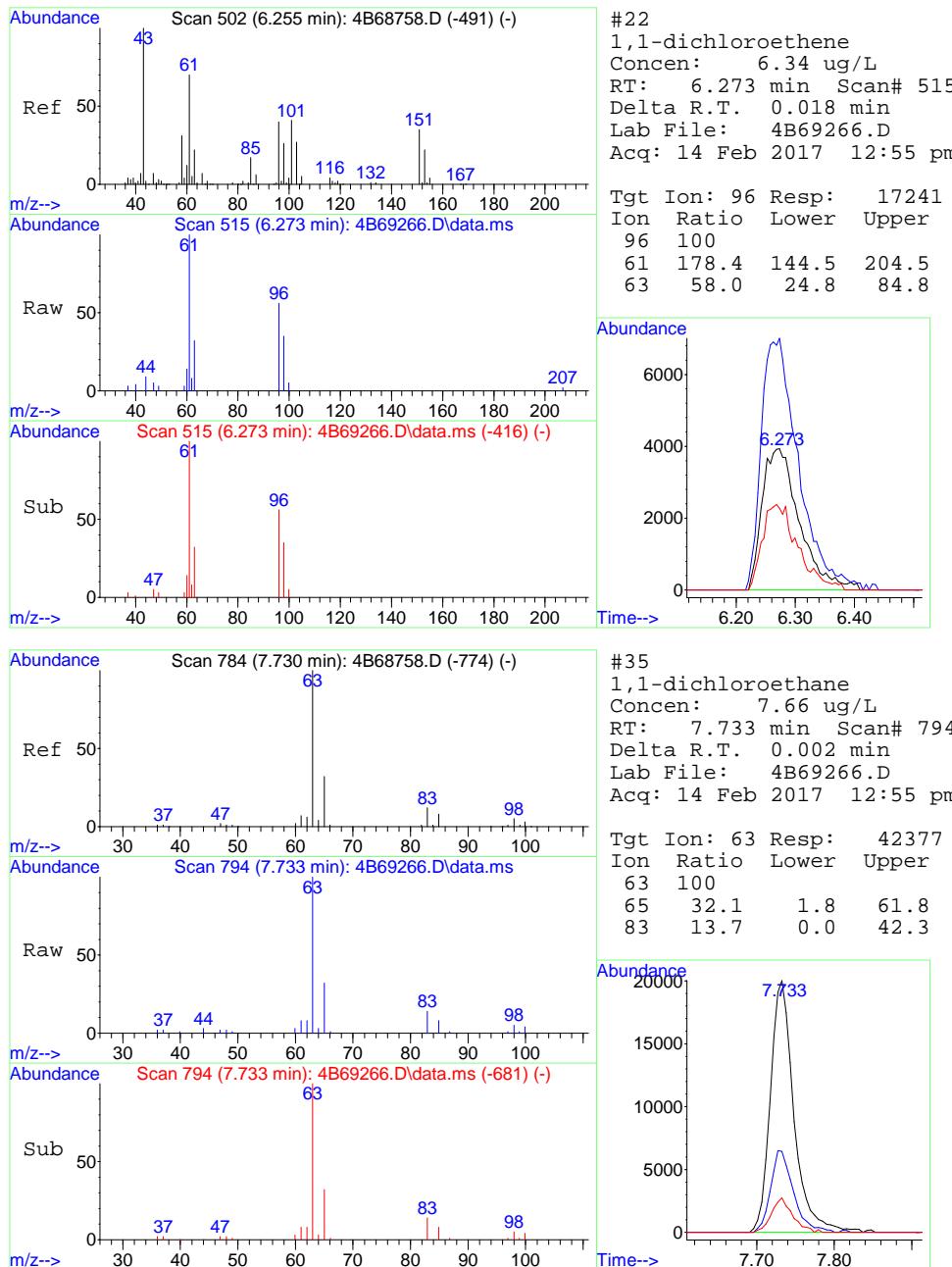
(#) = qualifier out of range (m) = manual integration (+) = signals summed

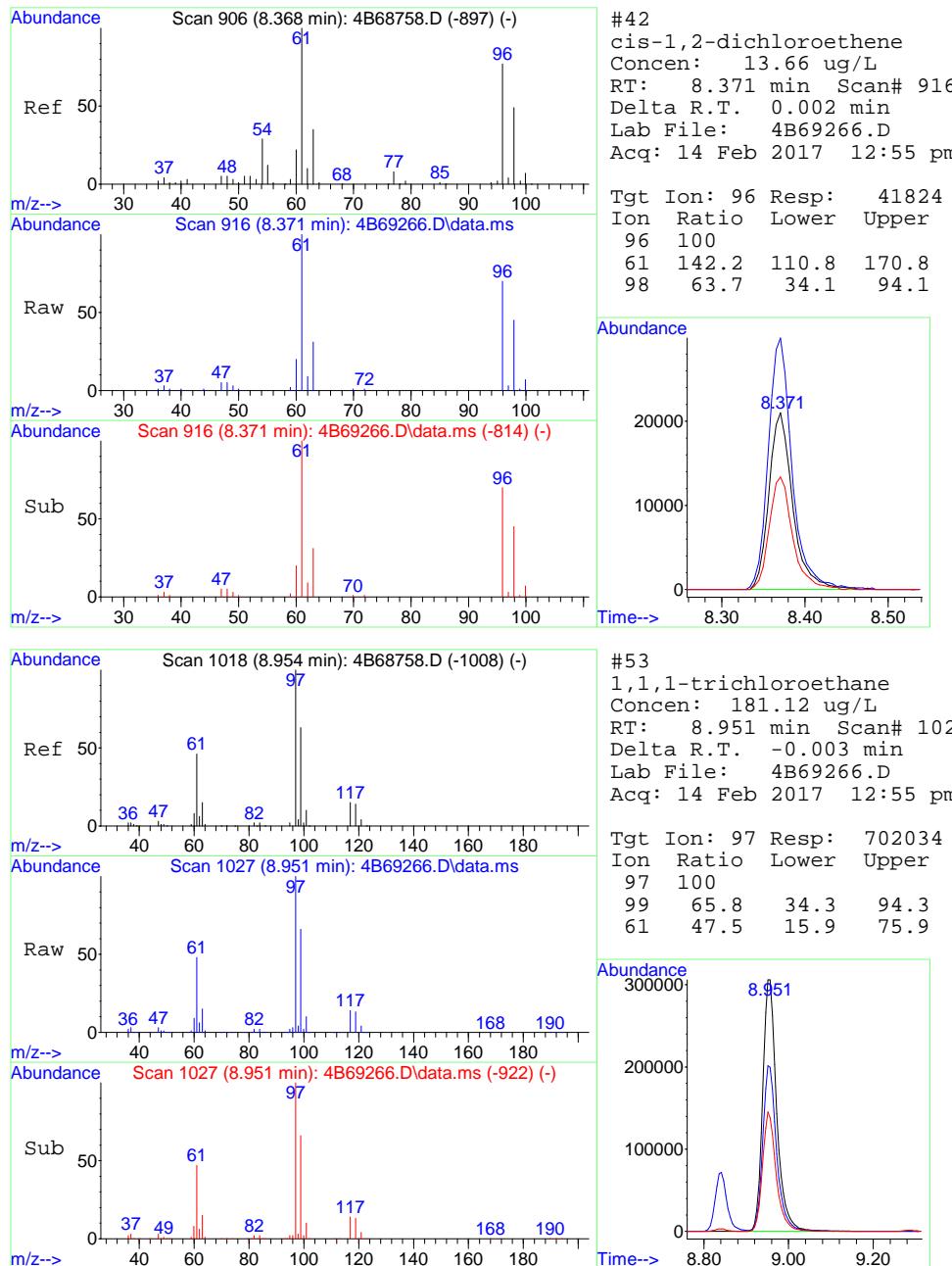
Quantitation Report (QT Reviewed)

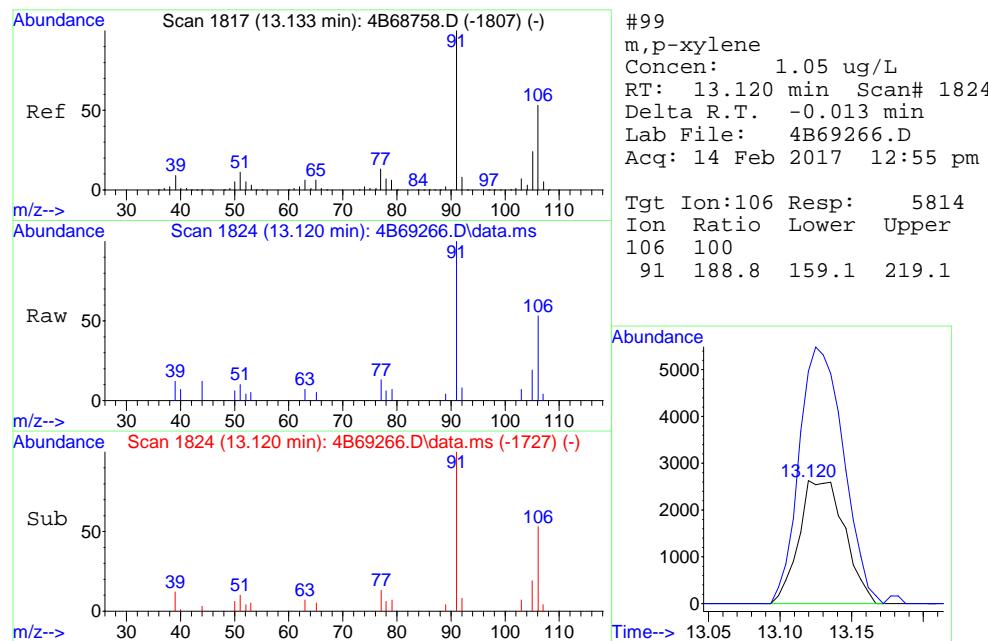
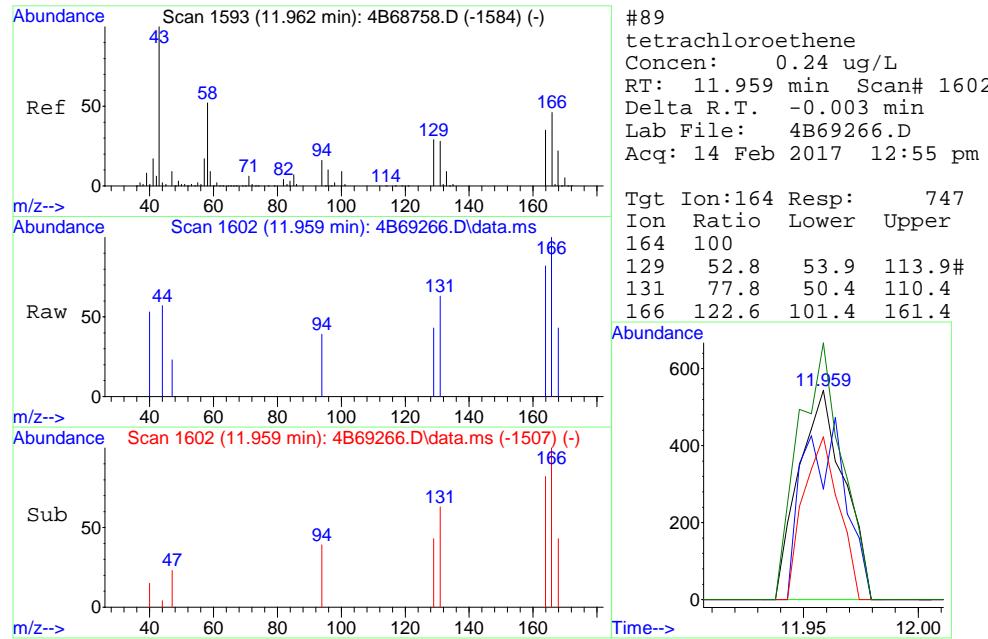
Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69266.D
 Acq On : 14 Feb 2017 12:55 pm
 Operator : Hueanh
 Sample : jc37024-2
 Misc : MS12540,V4B2850,5,,,,5
 ALS Vial : 10 Sample Multiplier: 1

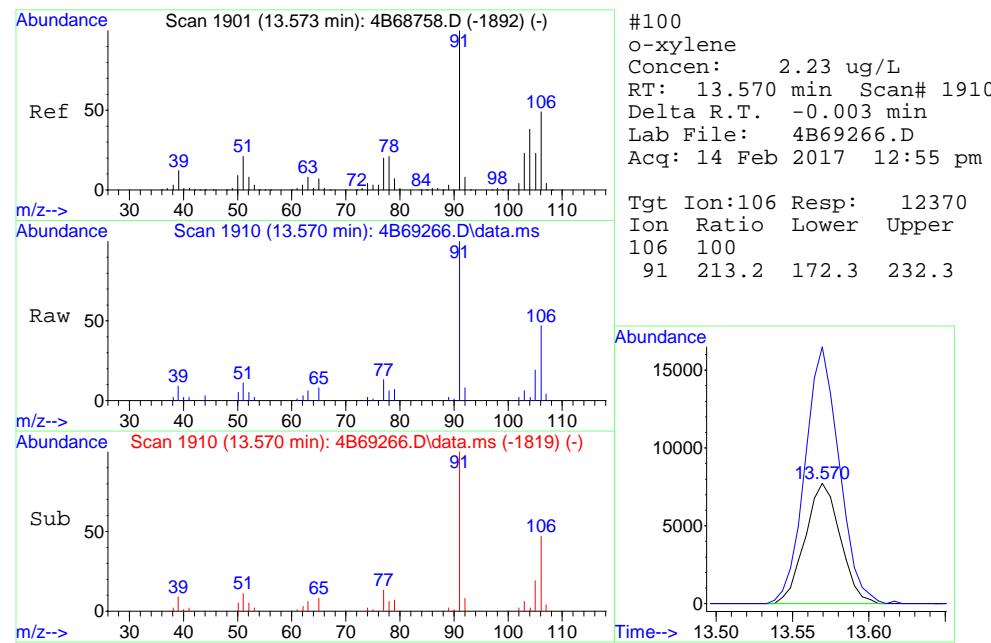
Quant Time: Feb 15 10:33:18 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration











Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69317.D

Acq On : 15 Feb 2017 2:25 pm

Operator : Hueanh

Sample : jc37024-3

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 16 15:33:15 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

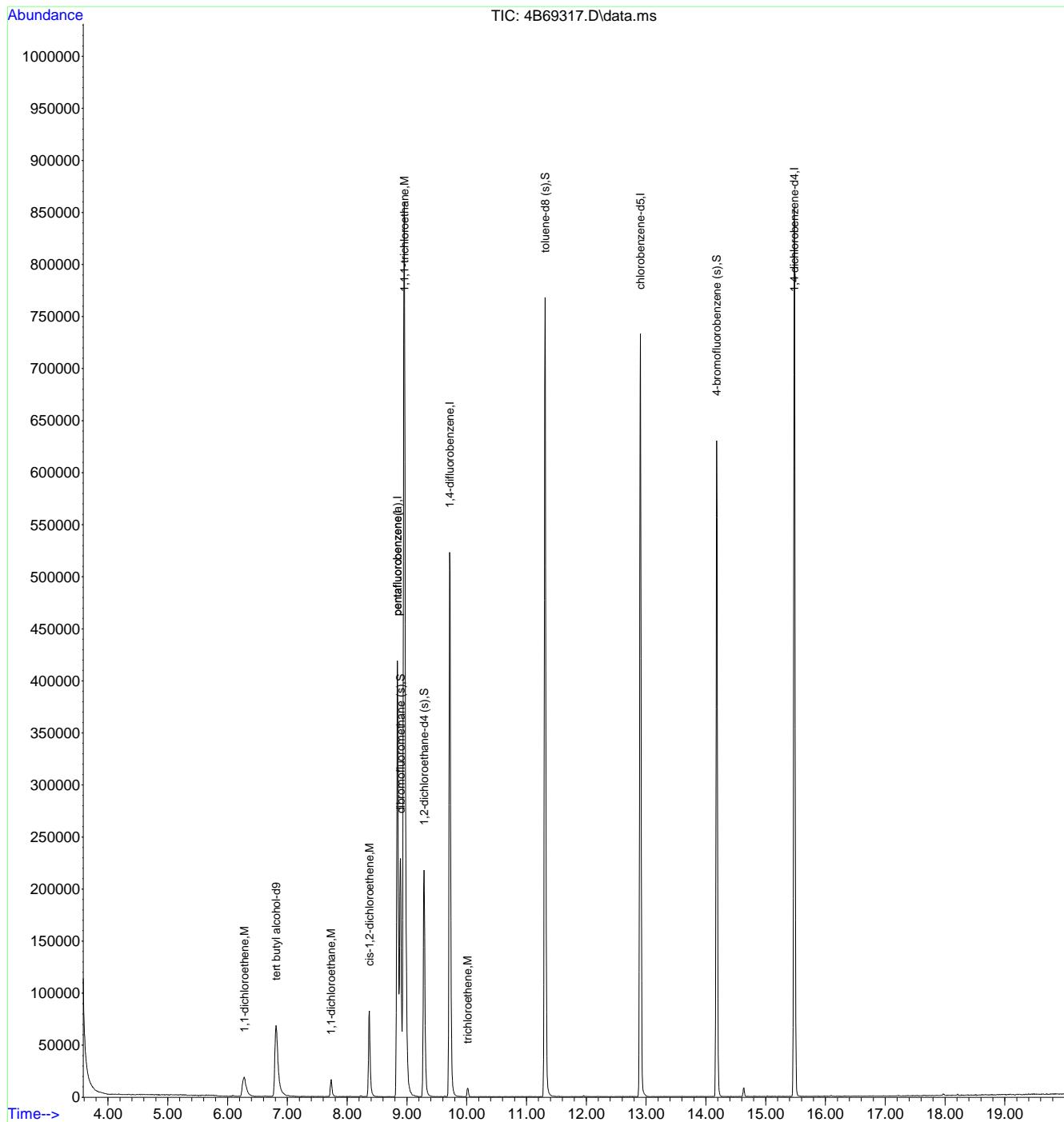
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	152264	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	318906	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	430236	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	409968	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	230542	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	318906	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	136134	50.55	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	101.10%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150830	51.70	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	103.40%	
80) toluene-d8 (s)	11.310	98	502598	50.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.16%	
105) 4-bromofluorobenzene (s)	14.181	95	192640	51.03	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.06%	
<hr/>						
Target Compounds						
				Qvalue		
22) 1,1-dichloroethene	6.279	96	18095	6.13	ug/L	91
35) 1,1-dichloroethane	7.733	63	18600	3.10	ug/L	96
42) cis-1,2-dichloroethene	8.371	96	37746	11.36	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	652372	155.14	ug/L	98
69) trichloroethene	10.013	95	3246	1.05	ug/L	77

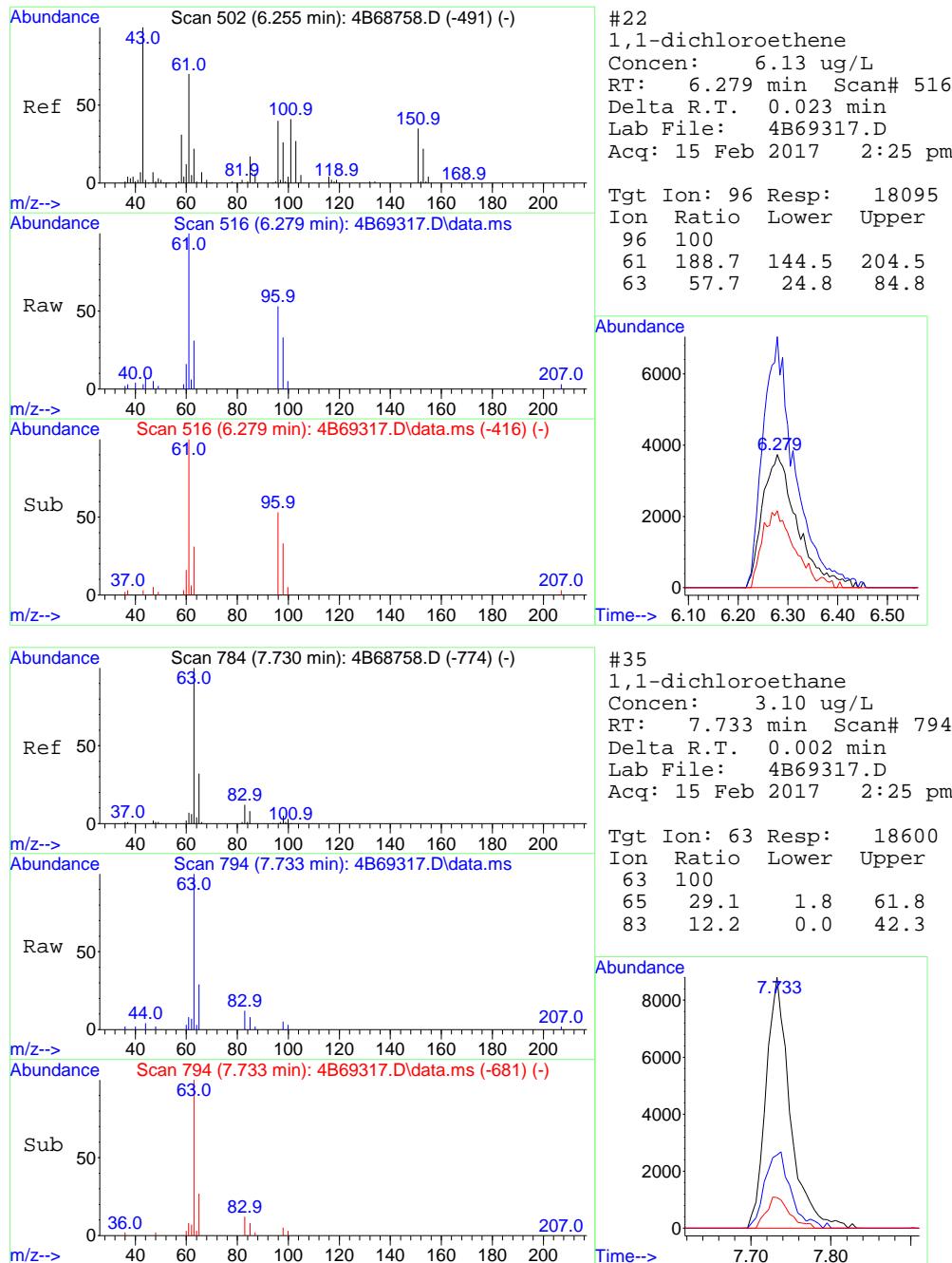
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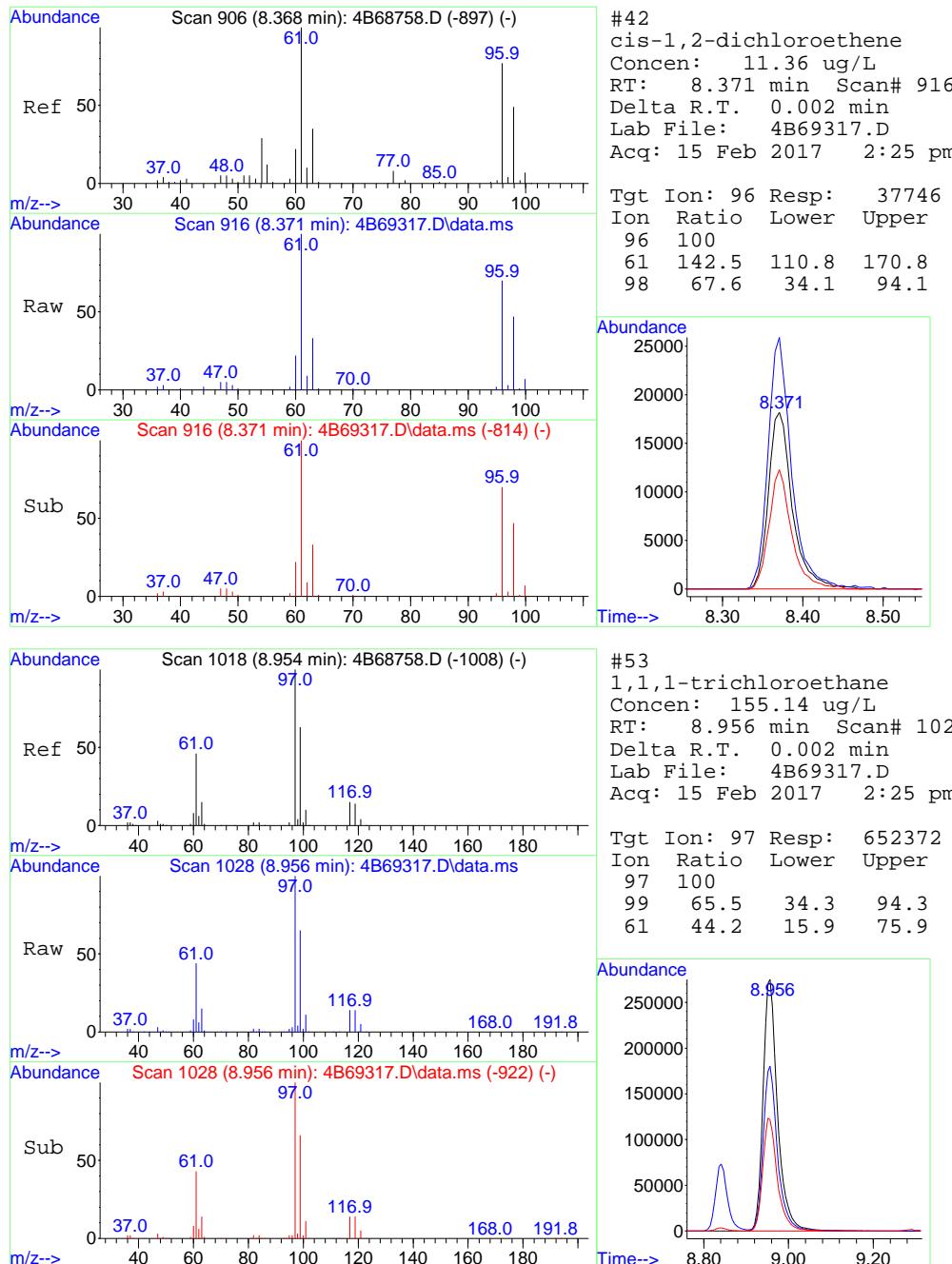
Quantitation Report (QT Reviewed)

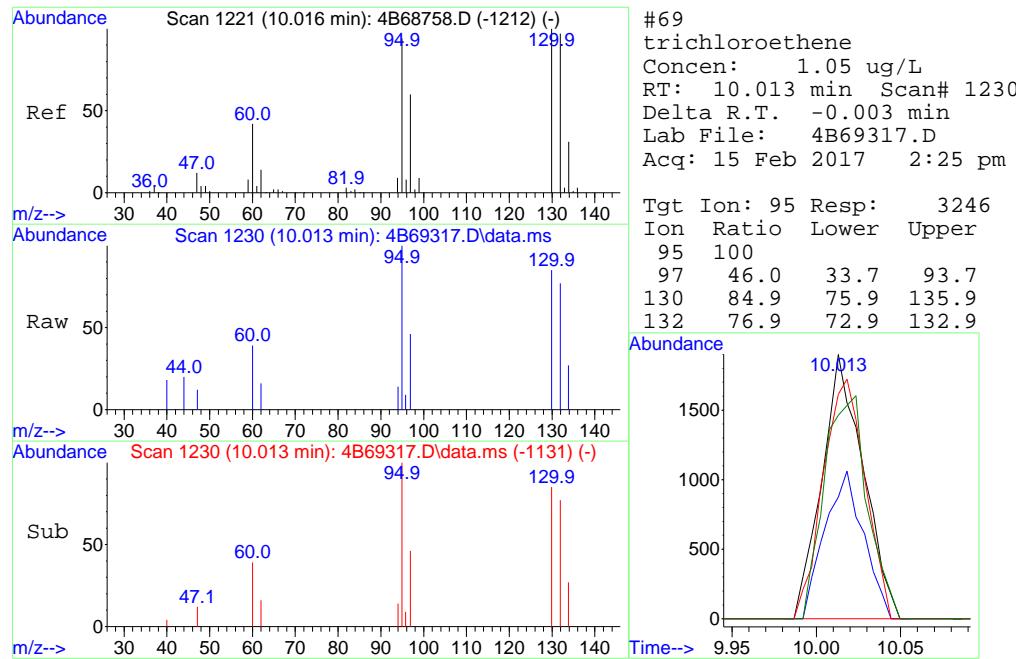
Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69317.D
 Acq On : 15 Feb 2017 2:25 pm
 Operator : Hueanh
 Sample : jc37024-3
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 16 15:33:15 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration









7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69318.D

Acq On : 15 Feb 2017 2:53 pm

Operator : Hueanhht

Sample : jc37024-4

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 16 15:34:01 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

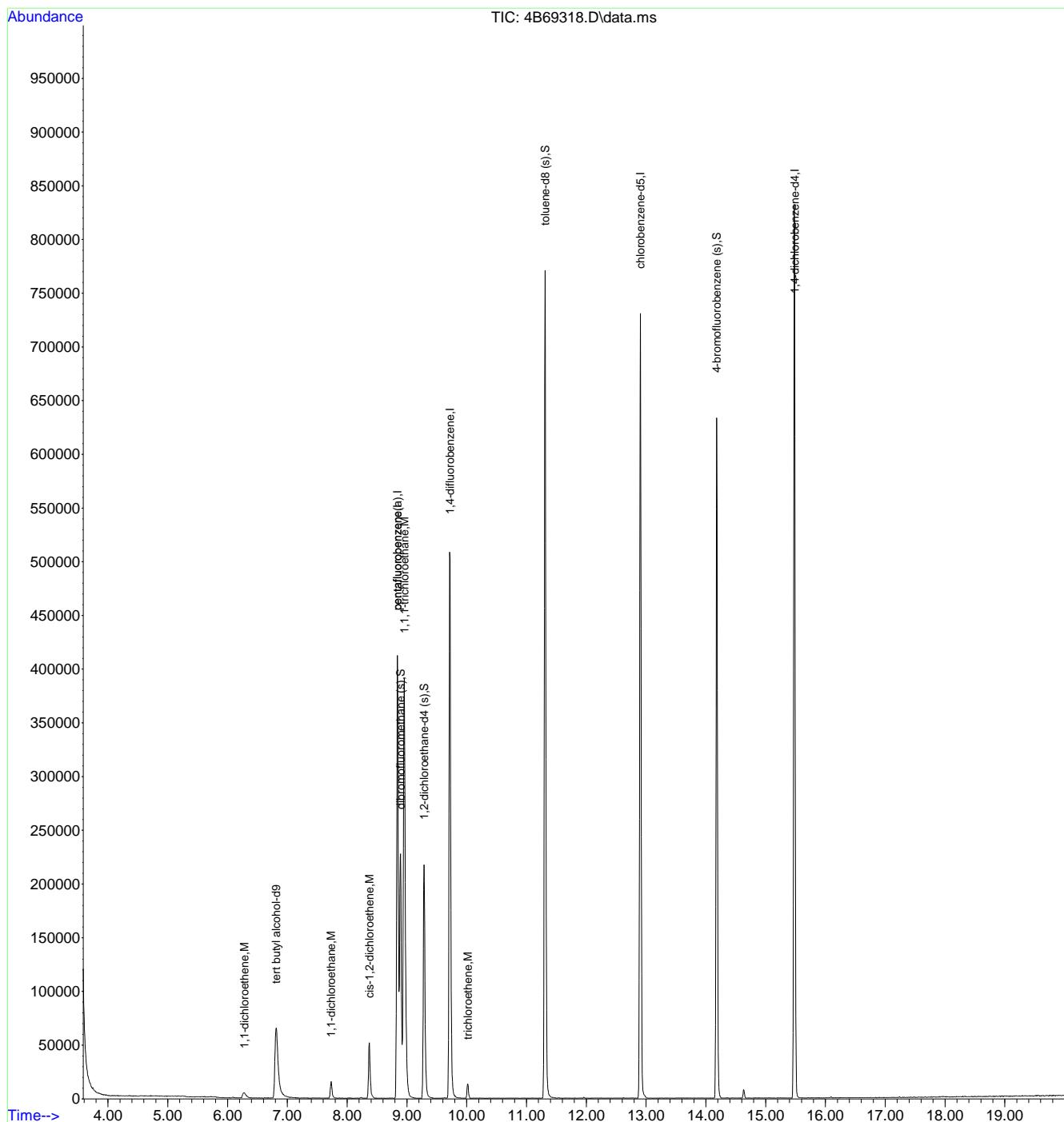
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	148693	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	314387	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	426371	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	403726	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	229864	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	314387	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	136120	51.27	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 102.54%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	149362	51.94	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 103.88%		
80) toluene-d8 (s)	11.310	98	495363	50.30	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 100.60%		
105) 4-bromofluorobenzene (s)	14.182	95	192657	51.18	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 102.36%		
<hr/>						
Target Compounds						
				Qvalue		
22) 1,1-dichloroethene	6.279	96	4497	1.55	ug/L	90
35) 1,1-dichloroethane	7.733	63	17930	3.03	ug/L	97
42) cis-1,2-dichloroethene	8.371	96	23653	7.22	ug/L	99
53) 1,1,1-trichloroethane	8.956	97	290950	70.19	ug/L	99
69) trichloroethene	10.018	95	4535	1.48	ug/L	94

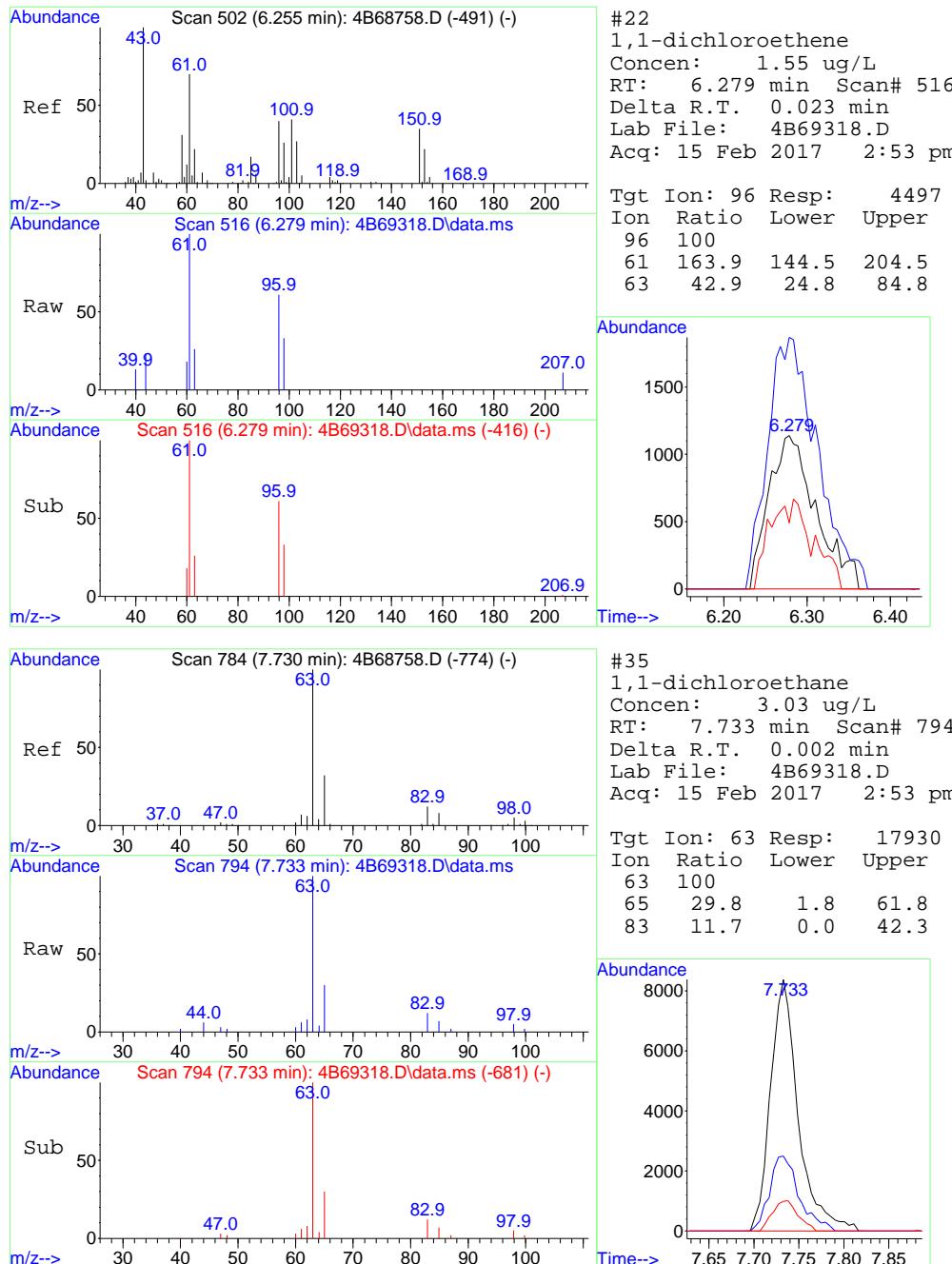
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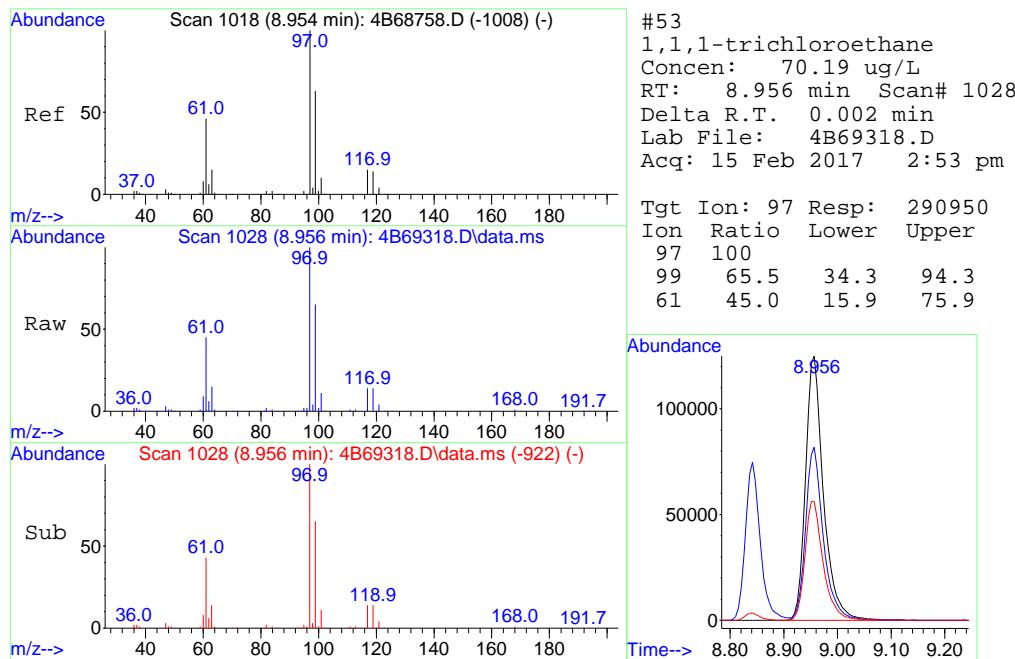
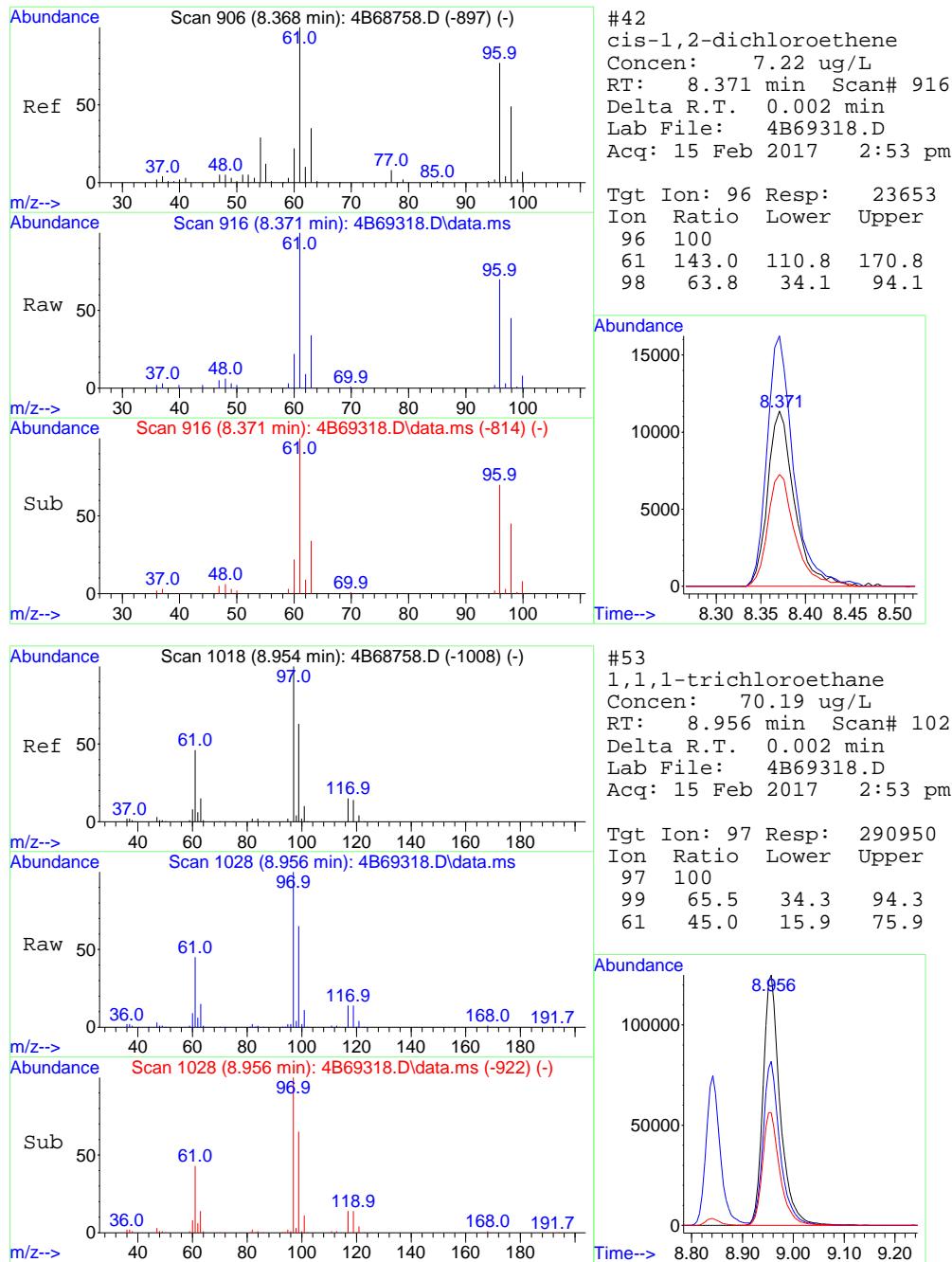
Quantitation Report (QT Reviewed)

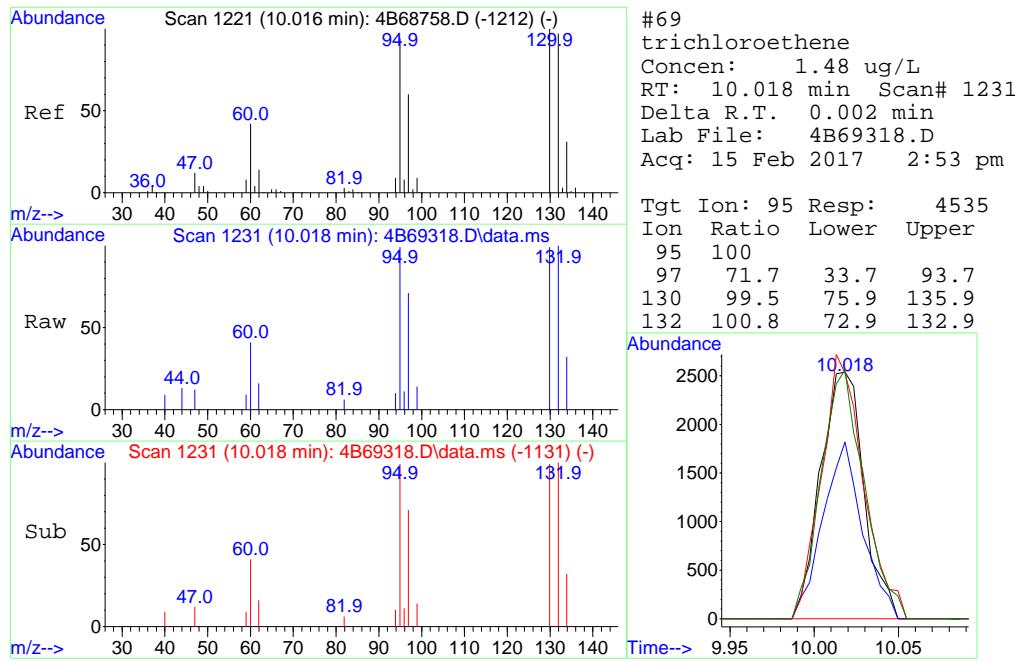
Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69318.D
 Acq On : 15 Feb 2017 2:53 pm
 Operator : Hueanh
 Sample : jc37024-4
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 16 15:34:01 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration









Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69325.D

Acq On : 15 Feb 2017 6:15 pm

Operator : Hueanh

Sample : jc37024-5

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 16 15:41:37 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	141227	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	320491	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	436295	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	413916	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	234052	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	320491	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	139850	51.67	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	103.34%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	153698	52.43	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	104.86%	
80) toluene-d8 (s)	11.310	98	506788	50.29	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.58%	
105) 4-bromofluorobenzene (s)	14.181	95	194760	50.82	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	101.64%	

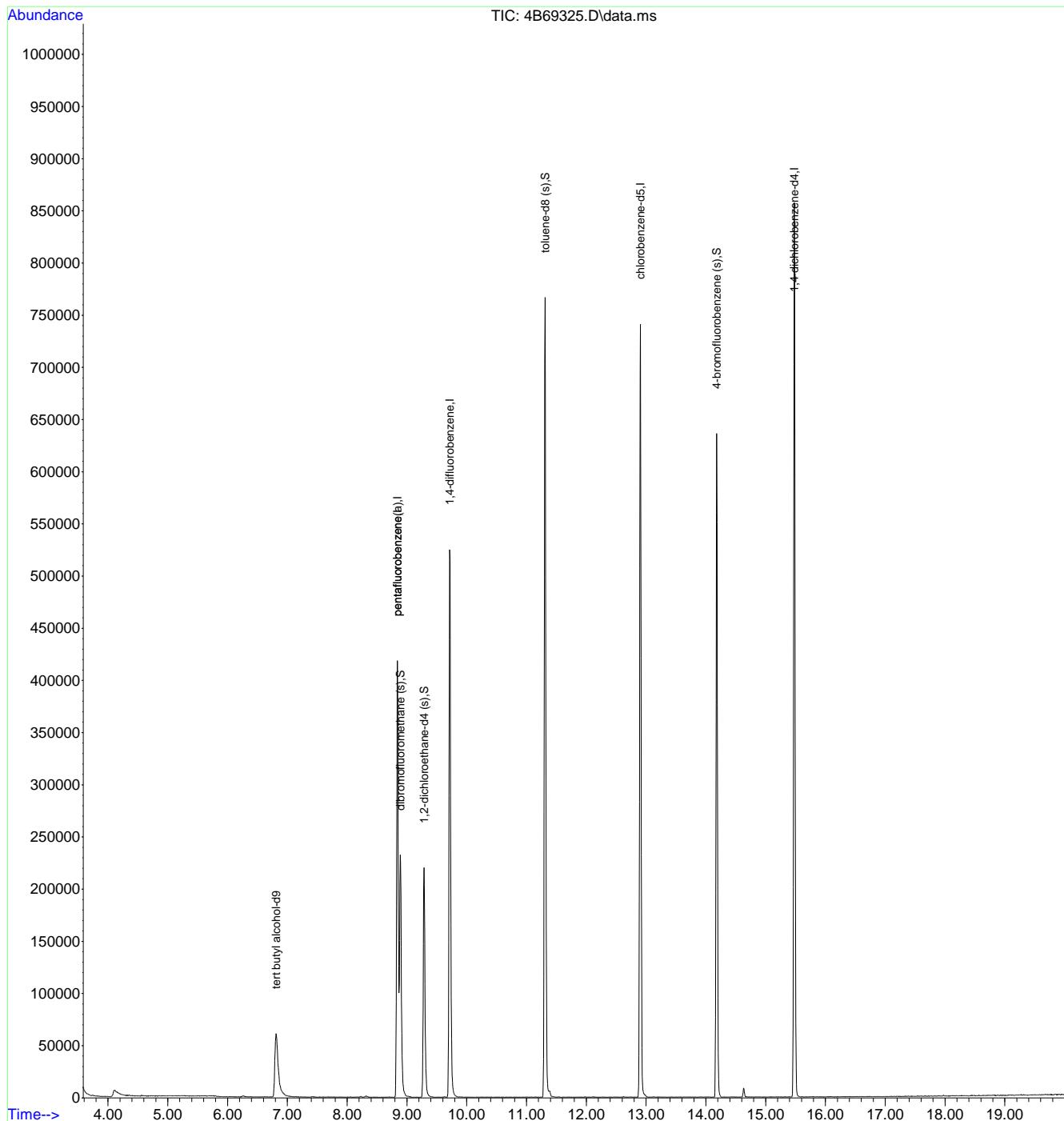
Target Compounds	Qvalue
<hr/>	

(#= qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69325.D
 Acq On : 15 Feb 2017 6:15 pm
 Operator : Hueanh
 Sample : jc37024-5
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 16 15:41:37 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69319.D

Acq On : 15 Feb 2017 3:24 pm

Operator : Hueanh

Sample : jc37024-6

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 16 15:34:49 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

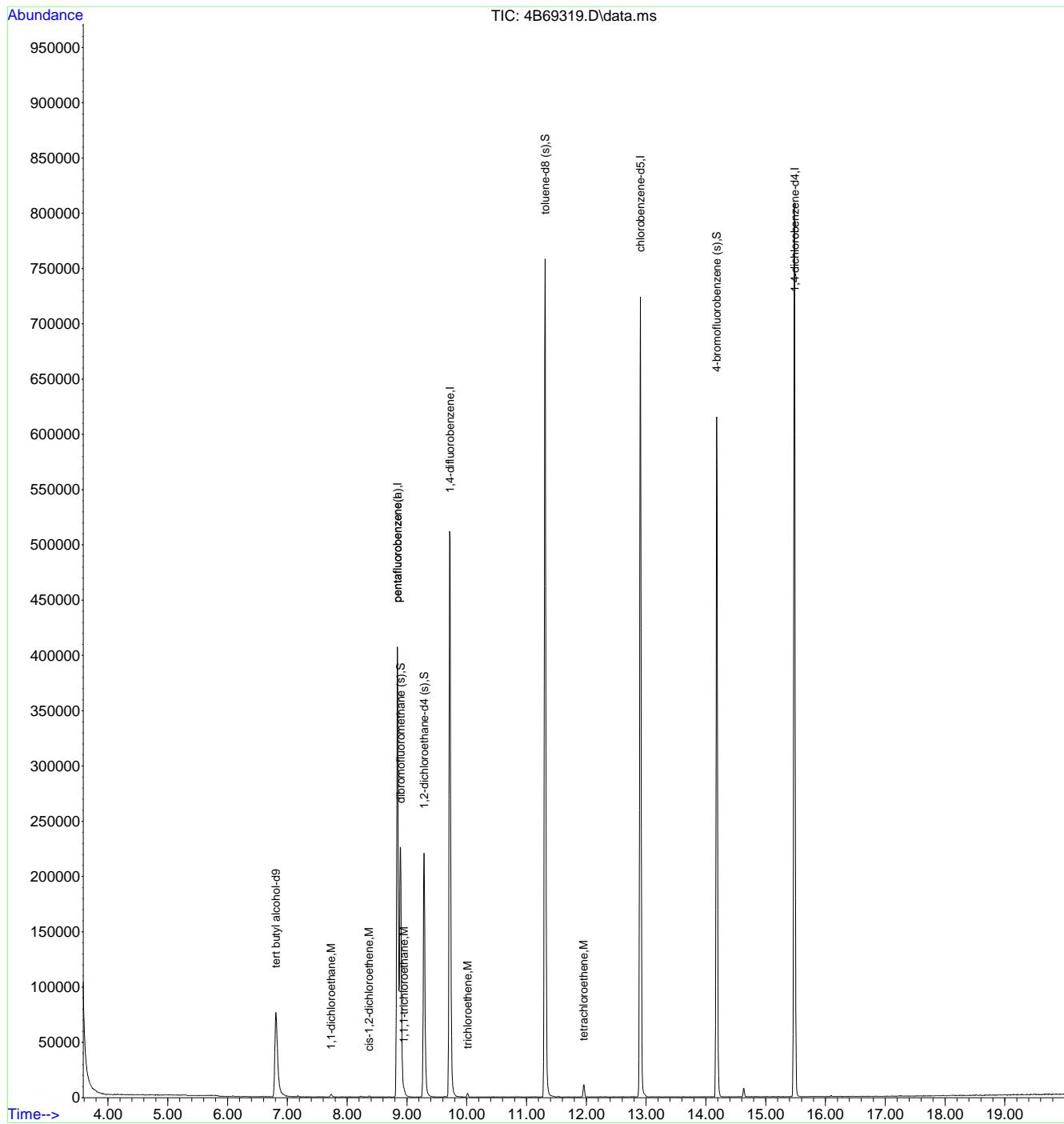
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	145206	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	312078	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	425068	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	398667	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	222471	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	312078	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	133598	50.69	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	101.38%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150033	52.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	105.12%	
80) toluene-d8 (s)	11.310	98	489777	49.89	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.78%	
105) 4-bromofluorobenzene (s)	14.182	95	188462	51.73	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.46%	
<hr/>						
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	3353	0.57	ug/L	90
42) cis-1,2-dichloroethene	8.365	96	453	0.14	ug/L	# 56
53) 1,1,1-trichloroethane	8.951	97	2223	0.54	ug/L	76
69) trichloroethene	10.013	95	1120	0.37	ug/L	86
89) tetrachloroethene	11.953	164	2911	0.89	ug/L	89

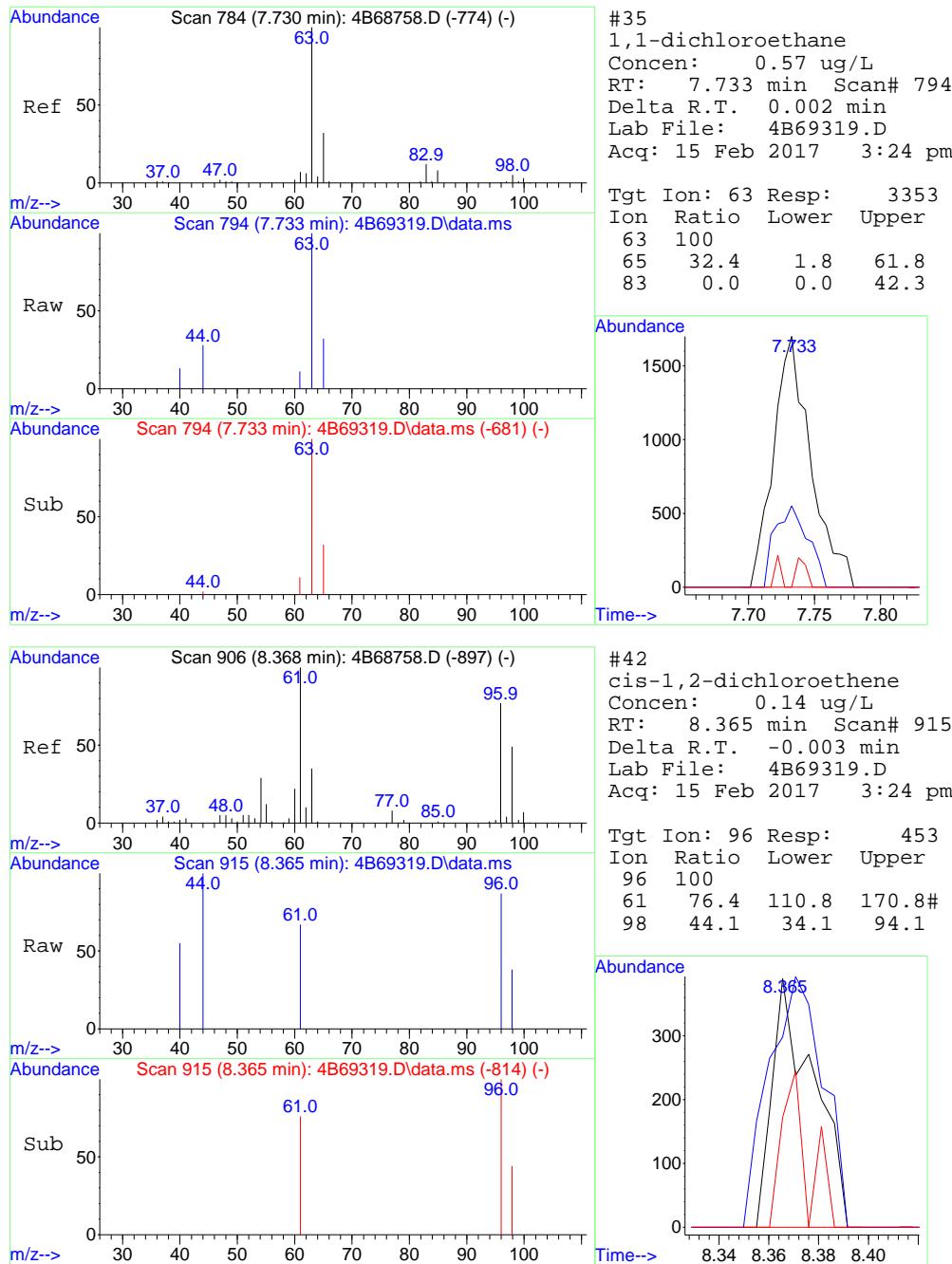
(#= qualifier out of range (m) = manual integration (+) = signals summed

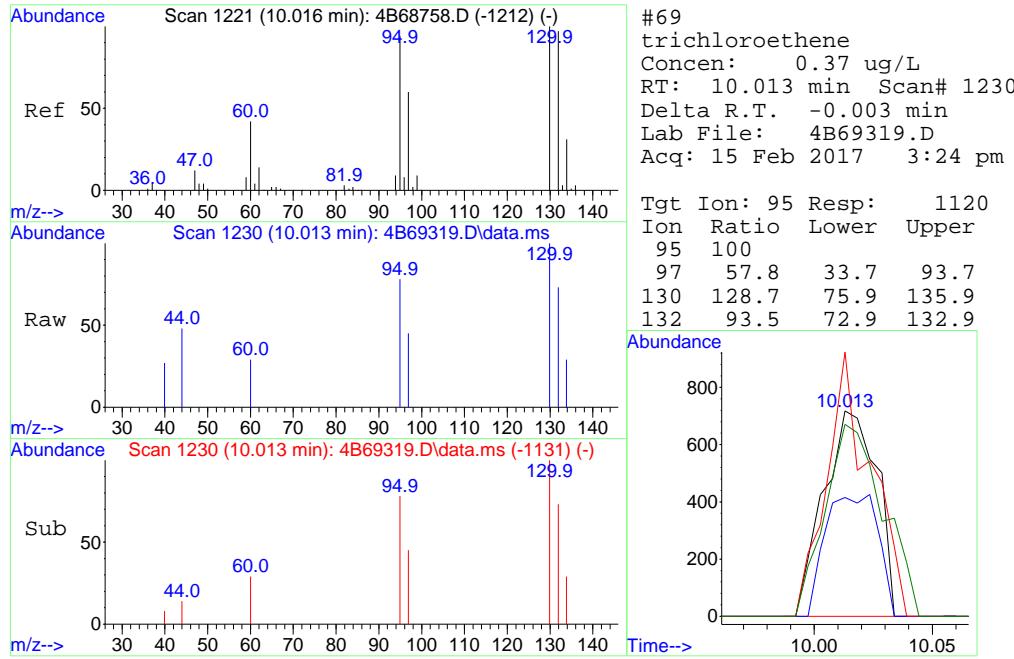
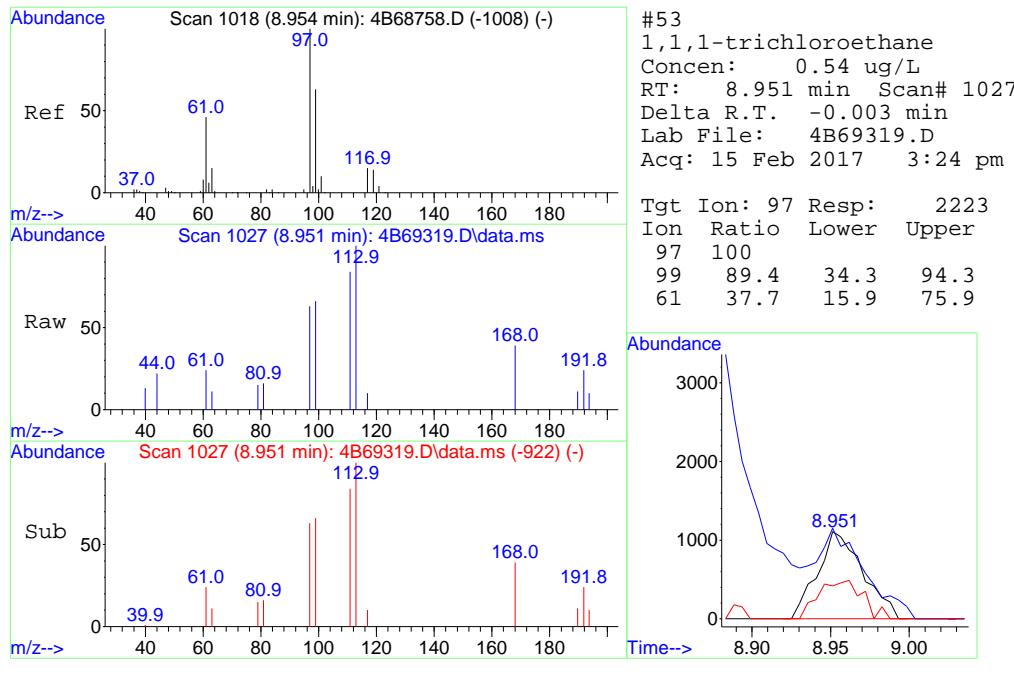
Quantitation Report (QT Reviewed)

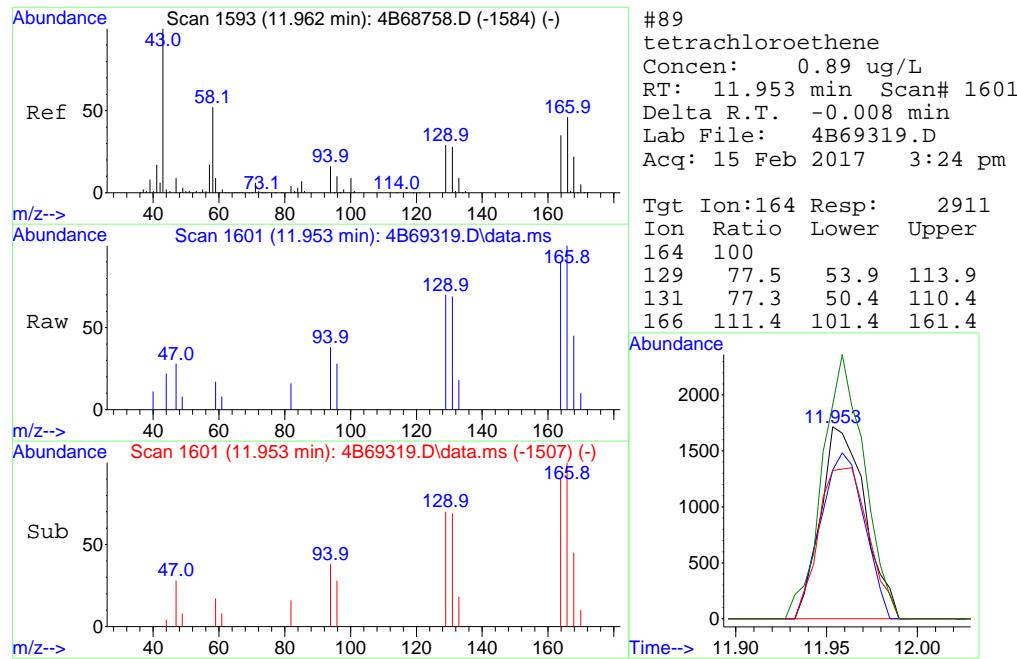
Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69319.D
 Acq On : 15 Feb 2017 3:24 pm
 Operator : Hueanh
 Sample : jc37024-6
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 16 15:34:49 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration









Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69320.D

Acq On : 15 Feb 2017 3:52 pm
 Operator : Hueanh
 Sample : jc37024-7
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 16 15:35:30 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

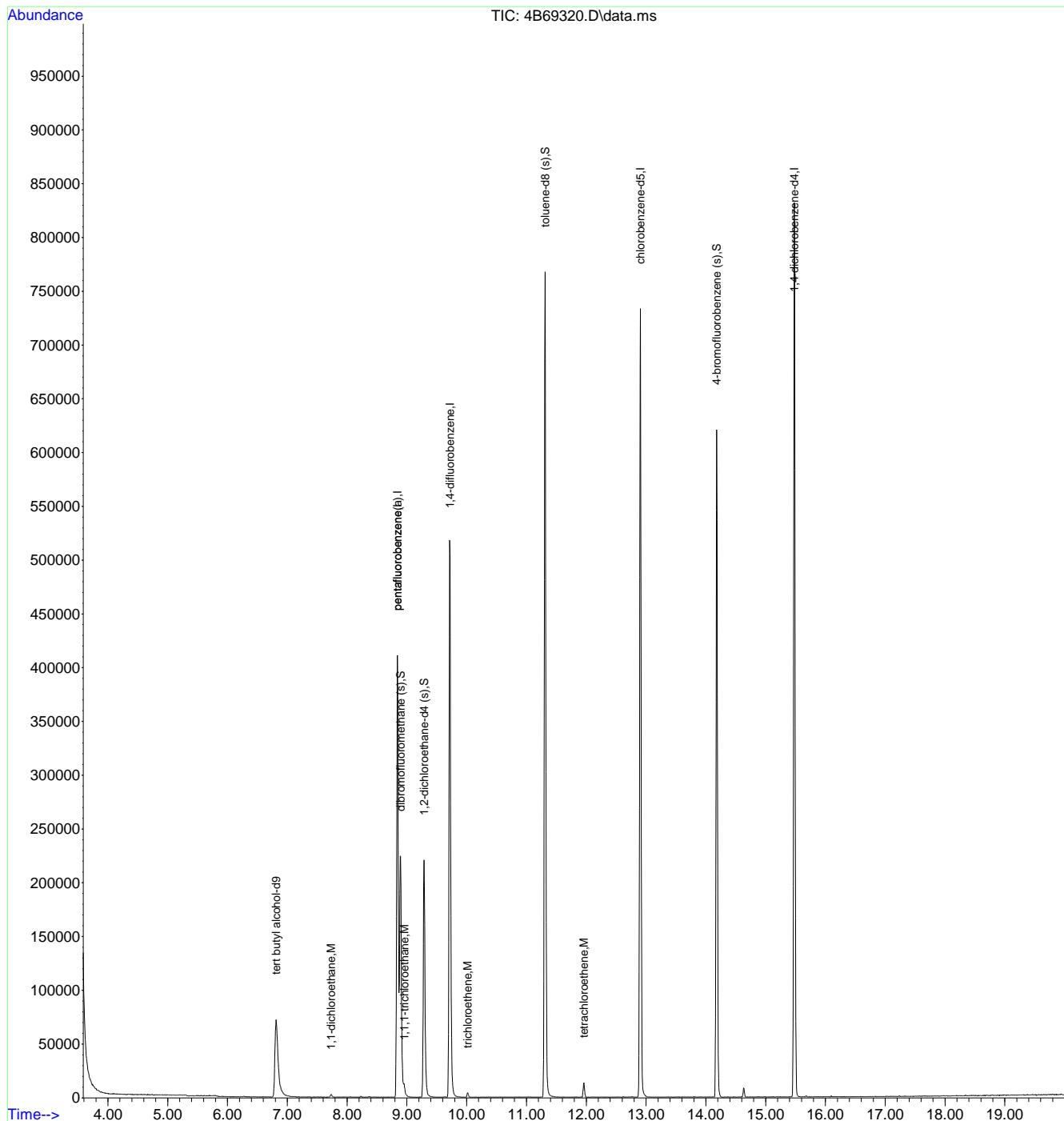
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	158322	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	313143	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	426870	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	400068	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	226450	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	313143	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	135047	51.07	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.14%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	151972	53.05	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	106.10%	
80) toluene-d8 (s)	11.310	98	494723	50.18	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.36%	
105) 4-bromofluorobenzene (s)	14.182	95	191813	51.73	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.46%	
<hr/>						
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	3208	0.54	ug/L	91
53) 1,1,1-trichloroethane	8.957	97	5389	1.31	ug/L	94
69) trichloroethene	10.013	95	1300	0.42	ug/L	83
89) tetrachloroethene	11.959	164	3218	0.98	ug/L	93

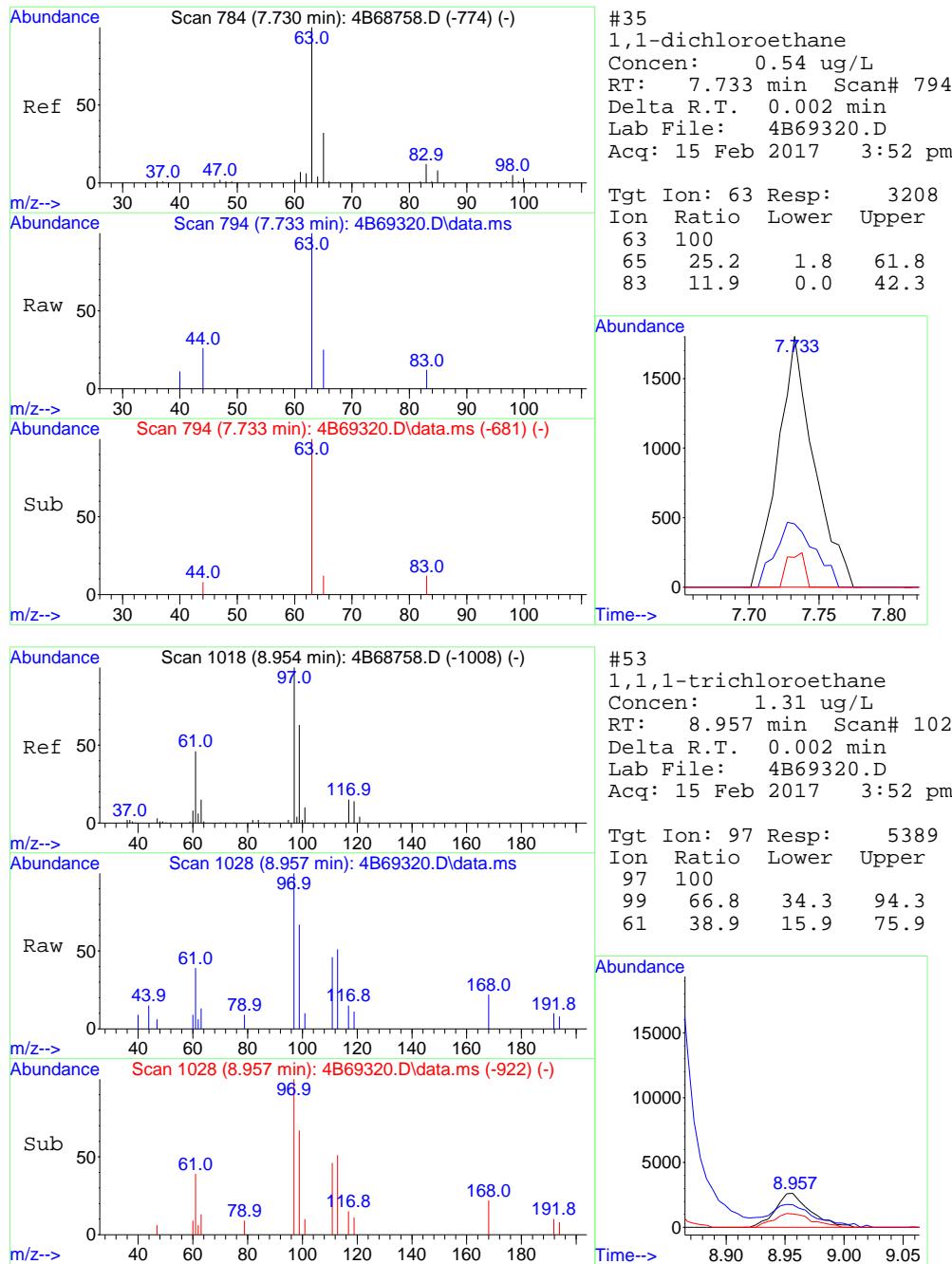
(#) = qualifier out of range (m) = manual integration (+) = signals summed

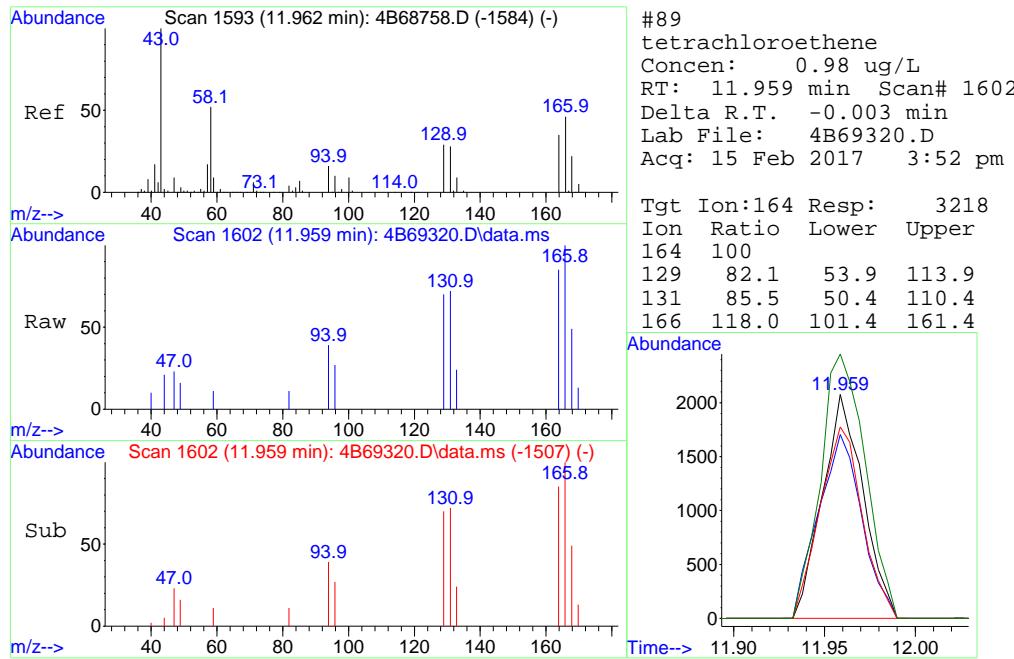
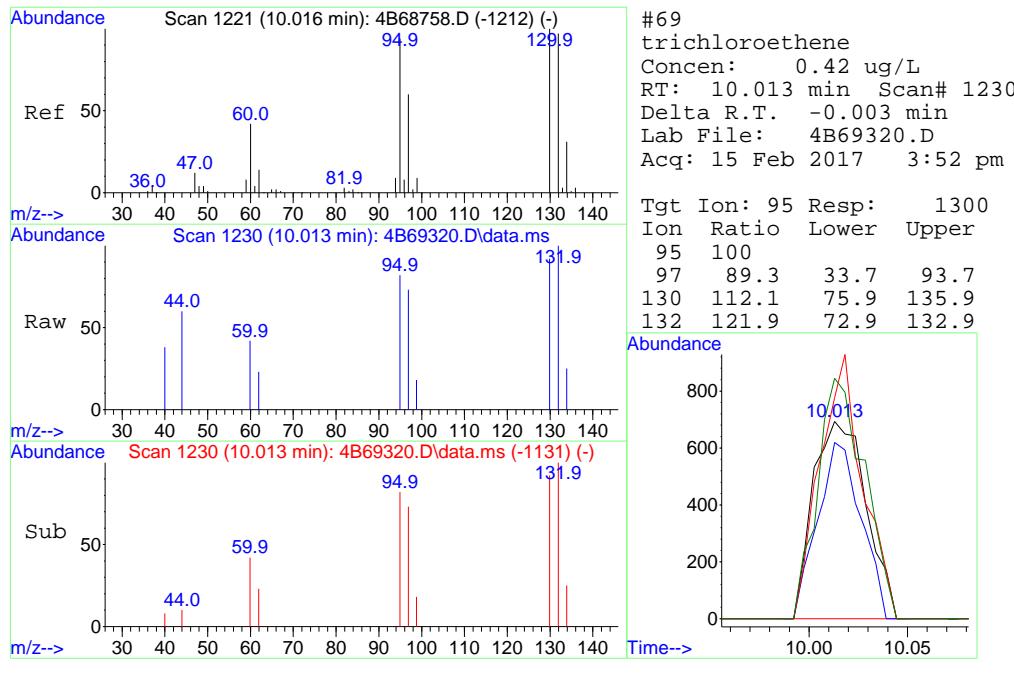
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69320.D
 Acq On : 15 Feb 2017 3:52 pm
 Operator : Hueanh
 Sample : jc37024-7
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 16 15:35:30 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration







Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69263.D
 Acq On : 14 Feb 2017 11:28 am
 Operator : Hueanht
 Sample : jc37024-8
 Misc : MS12540,V4B2850,5,,,,1
 ALS Vial : 7 Sample Multiplier: 1

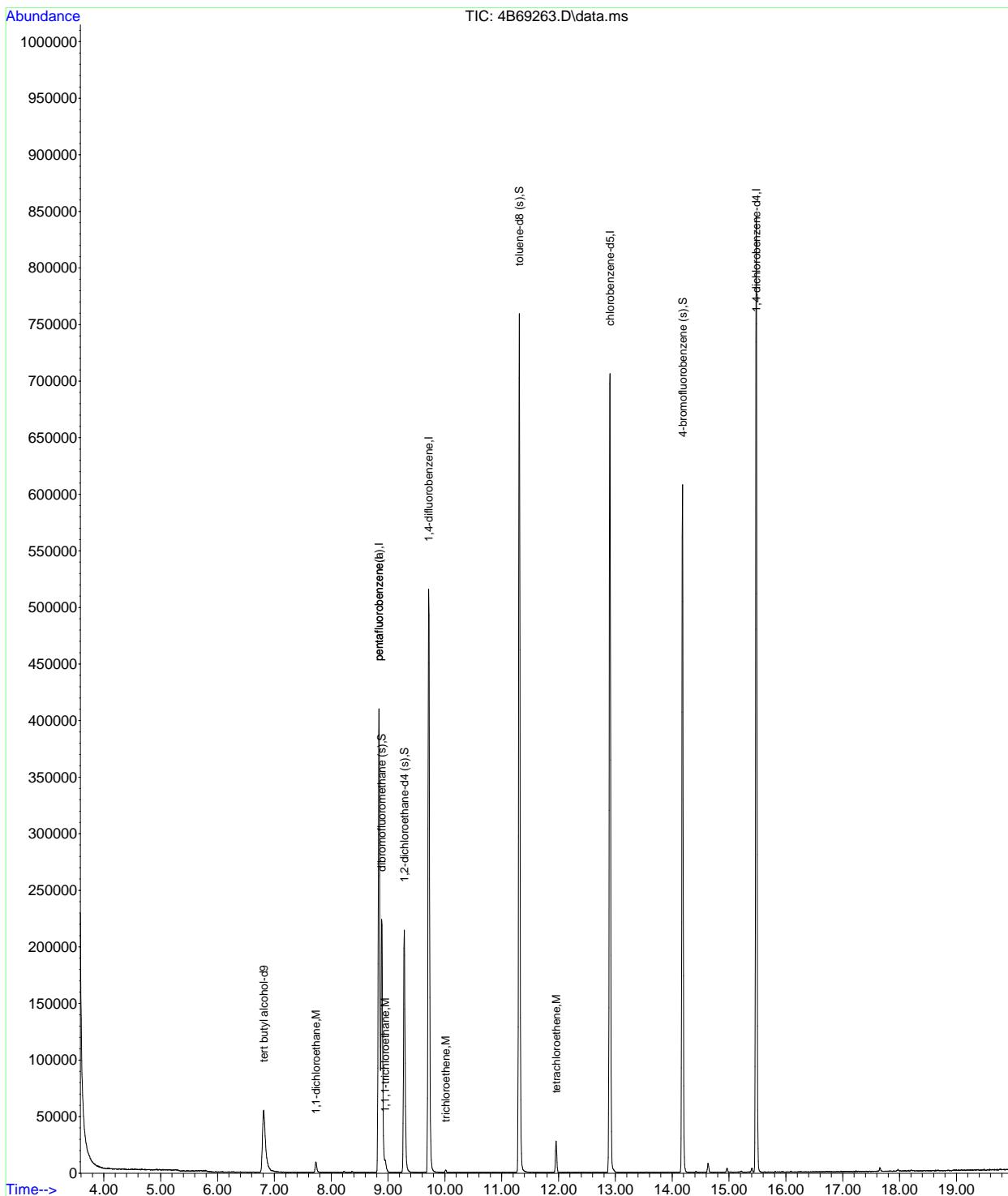
Quant Time: Feb 15 10:31:13 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

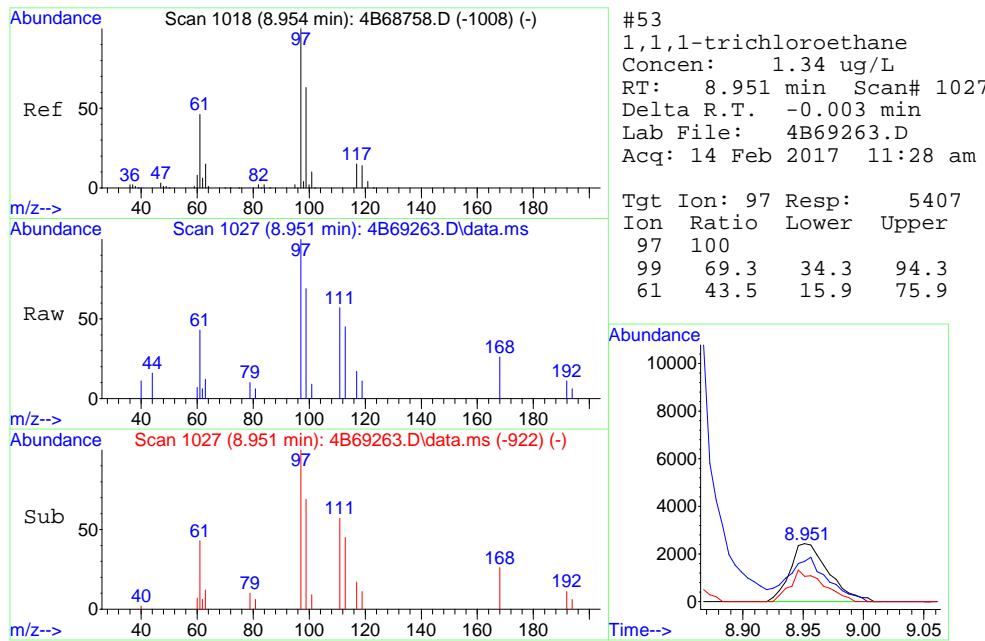
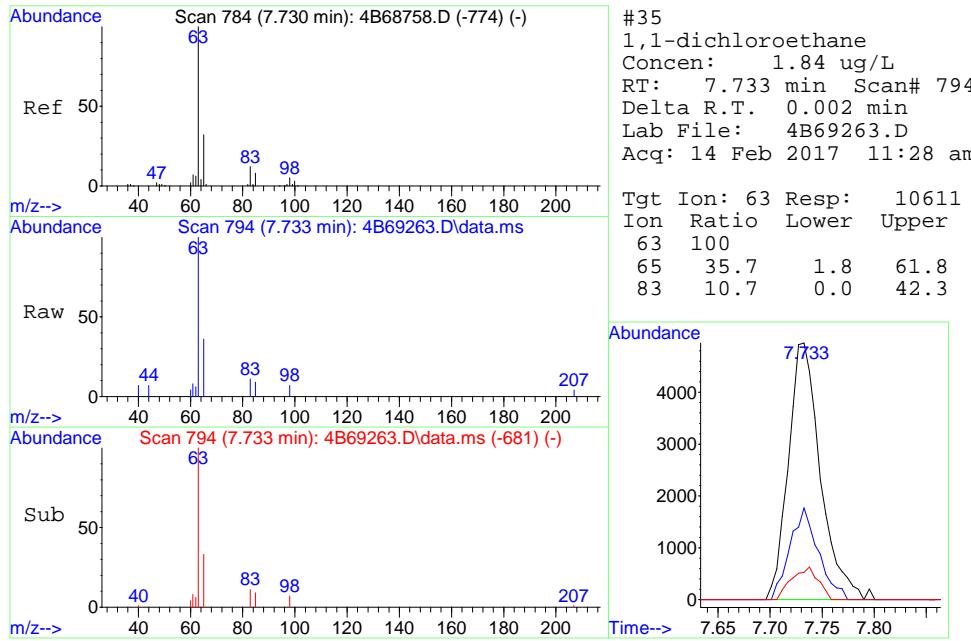
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	121965	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	306190	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	420100	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	394879	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	224199	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	306190	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	131771	50.96	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.92%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	146448	52.29	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	104.58%		
80) toluene-d8 (s)	11.310	98	488656	50.36	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.72%		
105) 4-bromofluorobenzene (s)	14.181	95	186654	50.84	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	101.68%		
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	10611	1.84	ug/L	94
53) 1,1,1-trichloroethane	8.951	97	5407	1.34	ug/L	95
69) trichloroethene	10.013	95	828	0.27	ug/L	79
89) tetrachloroethene	11.959	164	6698	2.06	ug/L	95

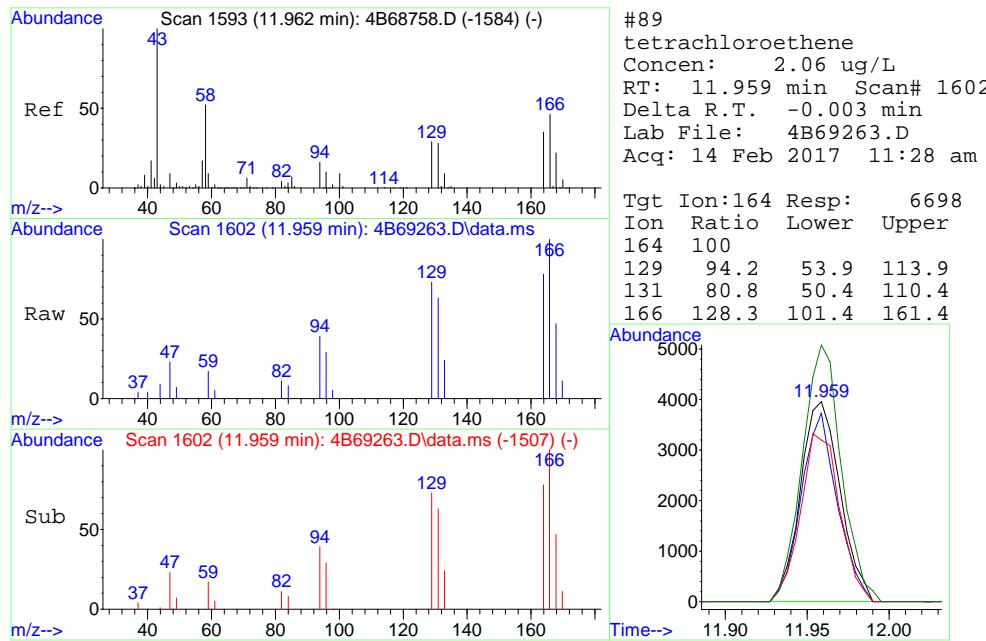
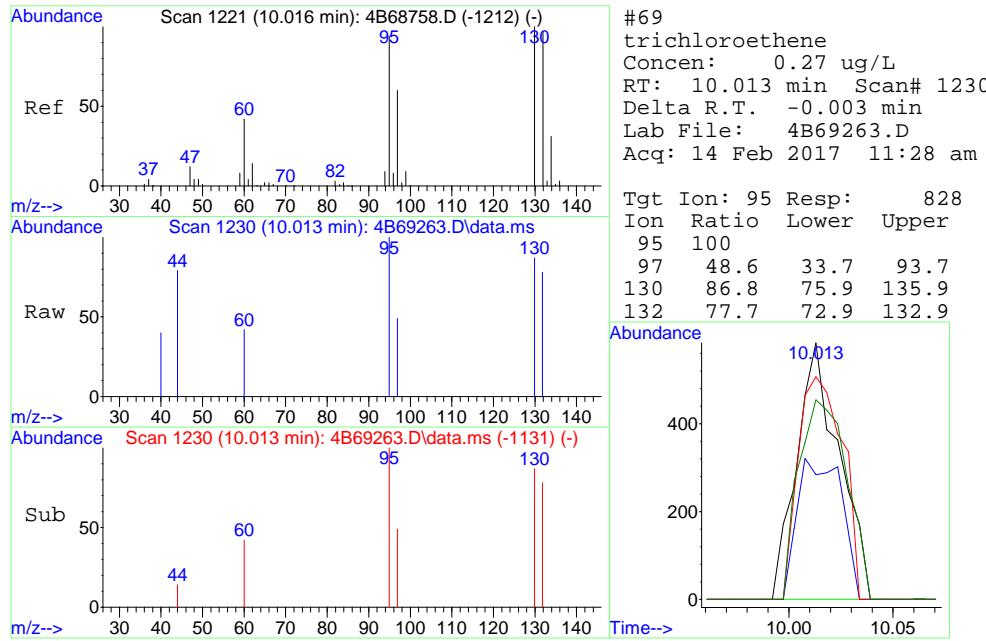
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69263.D
 Acq On : 14 Feb 2017 11:28 am
 Operator : Hueanh
 Sample : jc37024-8
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 15 10:31:13 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69346.D
 Acq On : 16 Feb 2017 3:18 am
 Operator : Hueanh
 Sample : jc37024-9
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 42 Sample Multiplier: 1

Quant Time: Feb 16 15:56:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

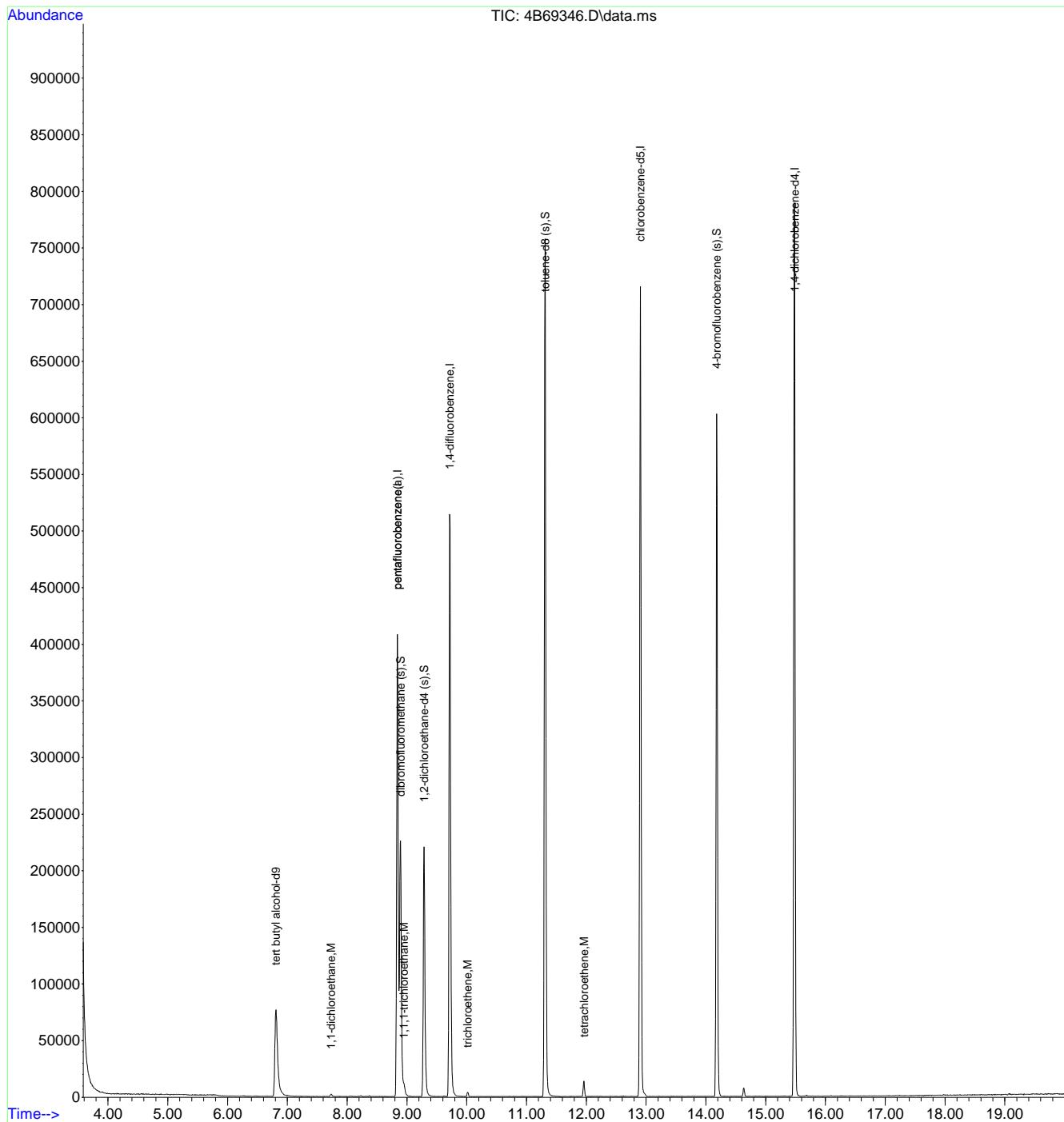
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	144189	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	307779	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	423773	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	396464	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	217205	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	307779	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	132913	51.14	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.28%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	149616	53.14	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	106.28%	
80) toluene-d8 (s)	11.310	98	491104	50.18	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.36%	
105) 4-bromofluorobenzene (s)	14.181	95	185384	52.12	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.24%	
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	3338	0.58	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	5207	1.28	ug/L	100
69) trichloroethene	10.013	95	1354	0.45	ug/L	84
89) tetrachloroethene	11.964	164	3257	1.00	ug/L	85

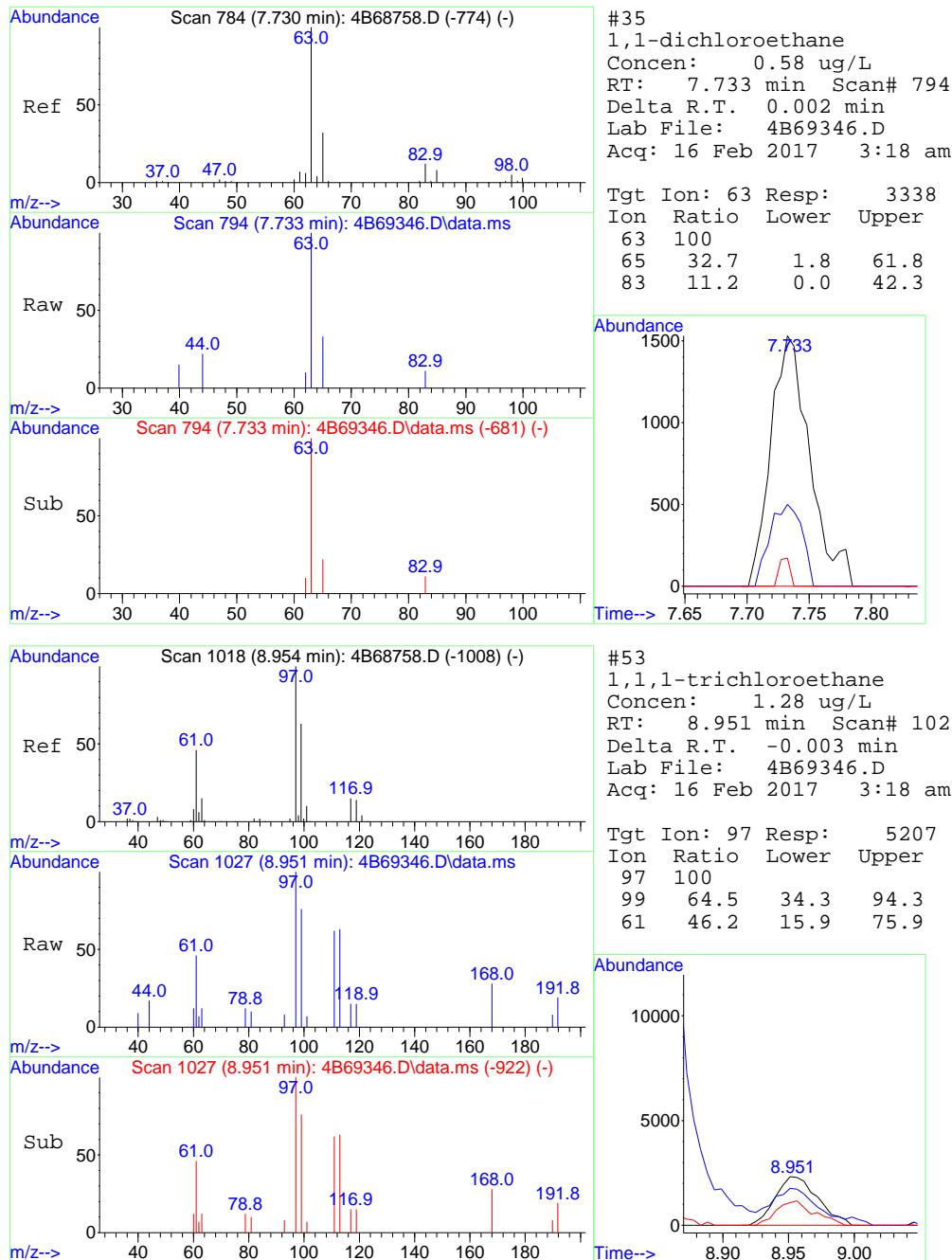
(#) = qualifier out of range (m) = manual integration (+) = signals summed

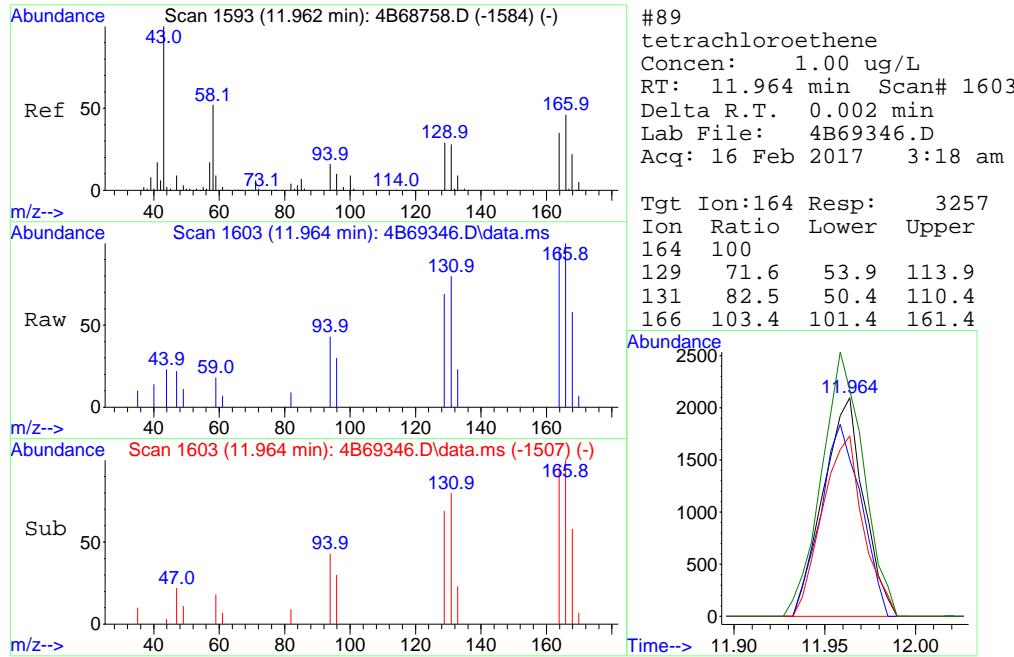
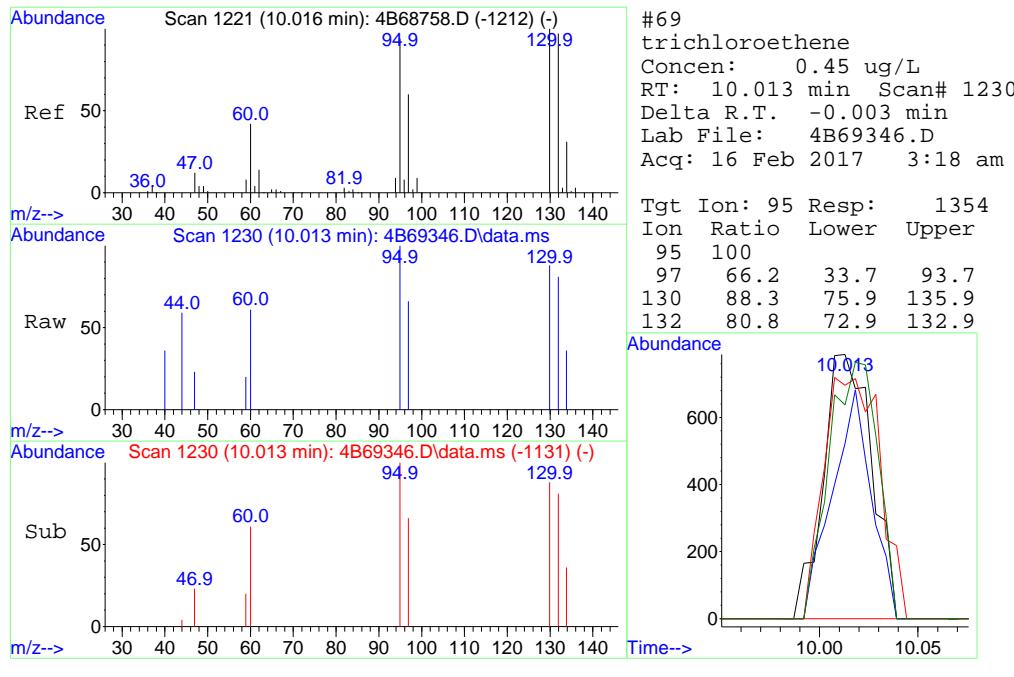
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69346.D
 Acq On : 16 Feb 2017 3:18 am
 Operator : Hueanh
 Sample : jc37024-9
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 42 Sample Multiplier: 1

Quant Time: Feb 16 15:56:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69326.D
 Acq On : 15 Feb 2017 6:43 pm
 Operator : Hueanh
 Sample : jc37024-10
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 16 15:42:34 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	145086	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	317985	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	434774	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	405649	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	231889	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	317985	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	137316	51.13	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.26%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	151906	52.22	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	104.44%	
80) toluene-d8 (s)	11.310	98	499213	49.71	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.42%	
105) 4-bromofluorobenzene (s)	14.181	95	194235	51.15	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.30%	

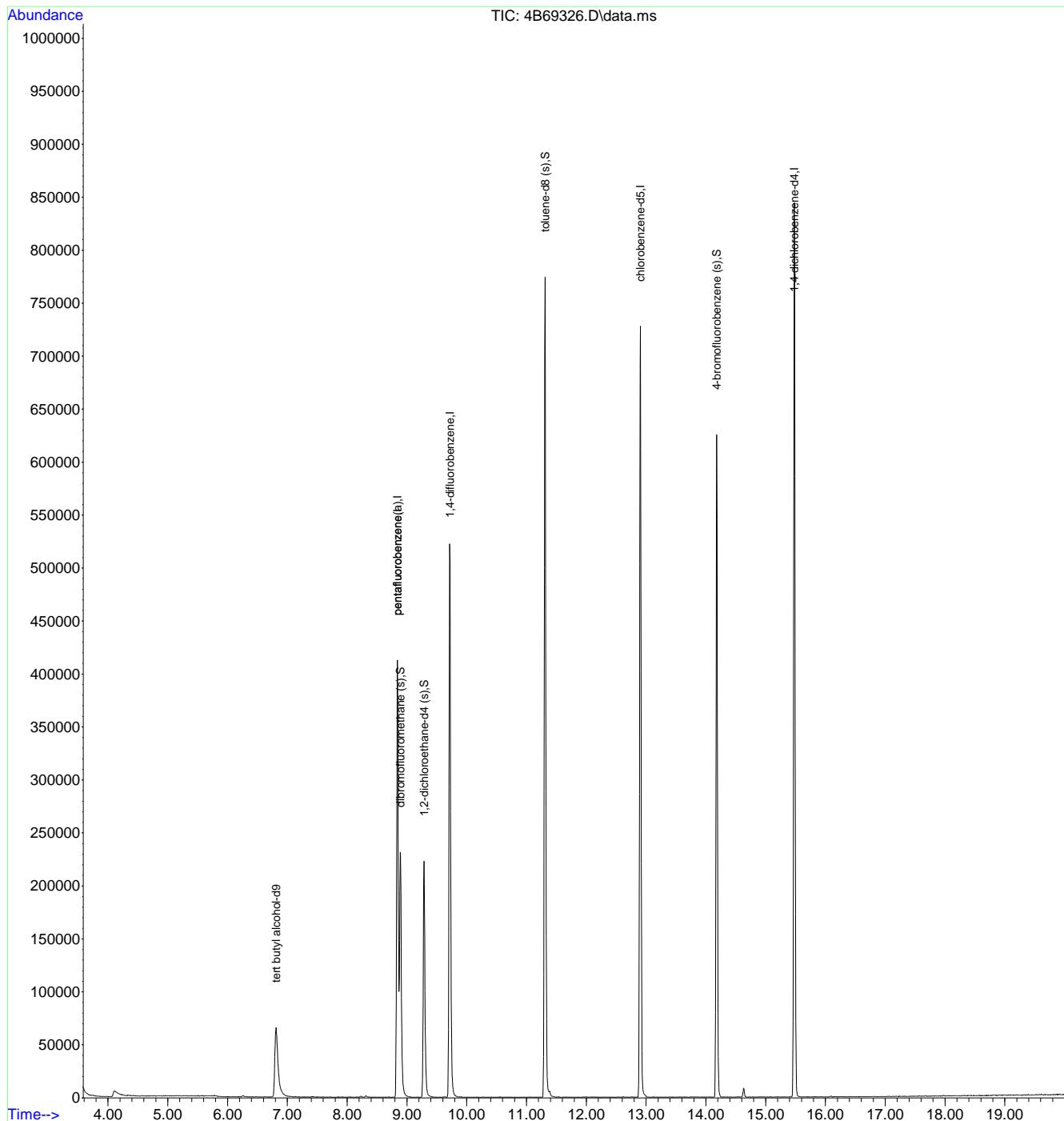
Target Compounds	Qvalue
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69326.D
 Acq On : 15 Feb 2017 6:43 pm
 Operator : Hueanh
 Sample : jc37024-10
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 16 15:42:34 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69347.D
 Acq On : 16 Feb 2017 3:46 am
 Operator : Hueanh
 Sample : jc37024-11
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 43 Sample Multiplier: 1

Quant Time: Feb 16 15:56:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

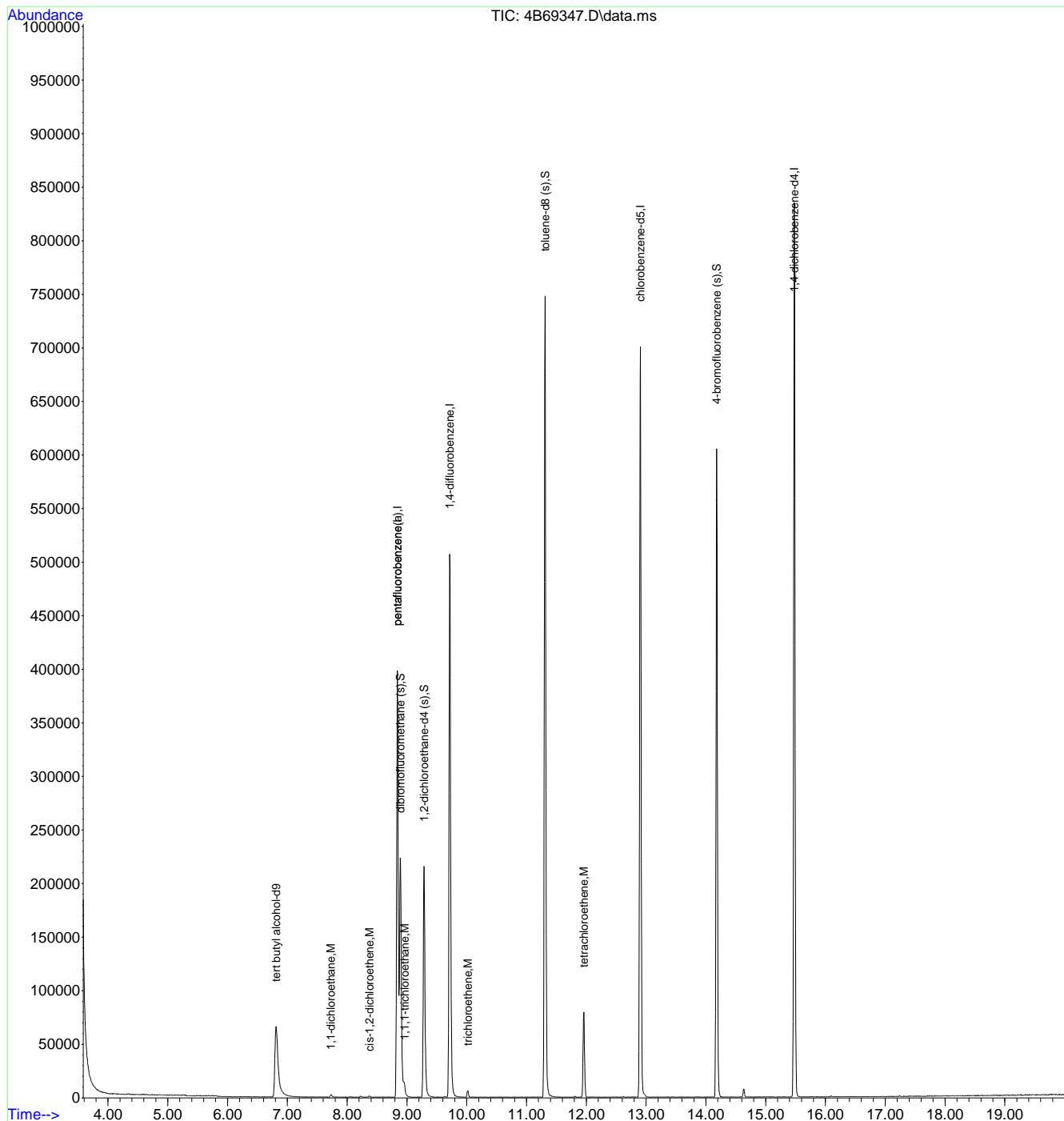
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	149081	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	301342	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	413837	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	391259	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	220247	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	301342	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	131759	51.77	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	103.54%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150555	54.62	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	109.24%	
80) toluene-d8 (s)	11.310	98	482122	50.44	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.88%	
105) 4-bromofluorobenzene (s)	14.181	95	186385	51.68	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.36%	
<hr/>						
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.727	63	3063	0.54	ug/L	82
42) cis-1,2-dichloroethene	8.371	96	679	0.22	ug/L	# 76
53) 1,1,1-trichloroethane	8.962	97	6939	1.75	ug/L	90
69) trichloroethene	10.018	95	2225	0.75	ug/L	88
89) tetrachloroethene	11.959	164	19191	5.96	ug/L	95

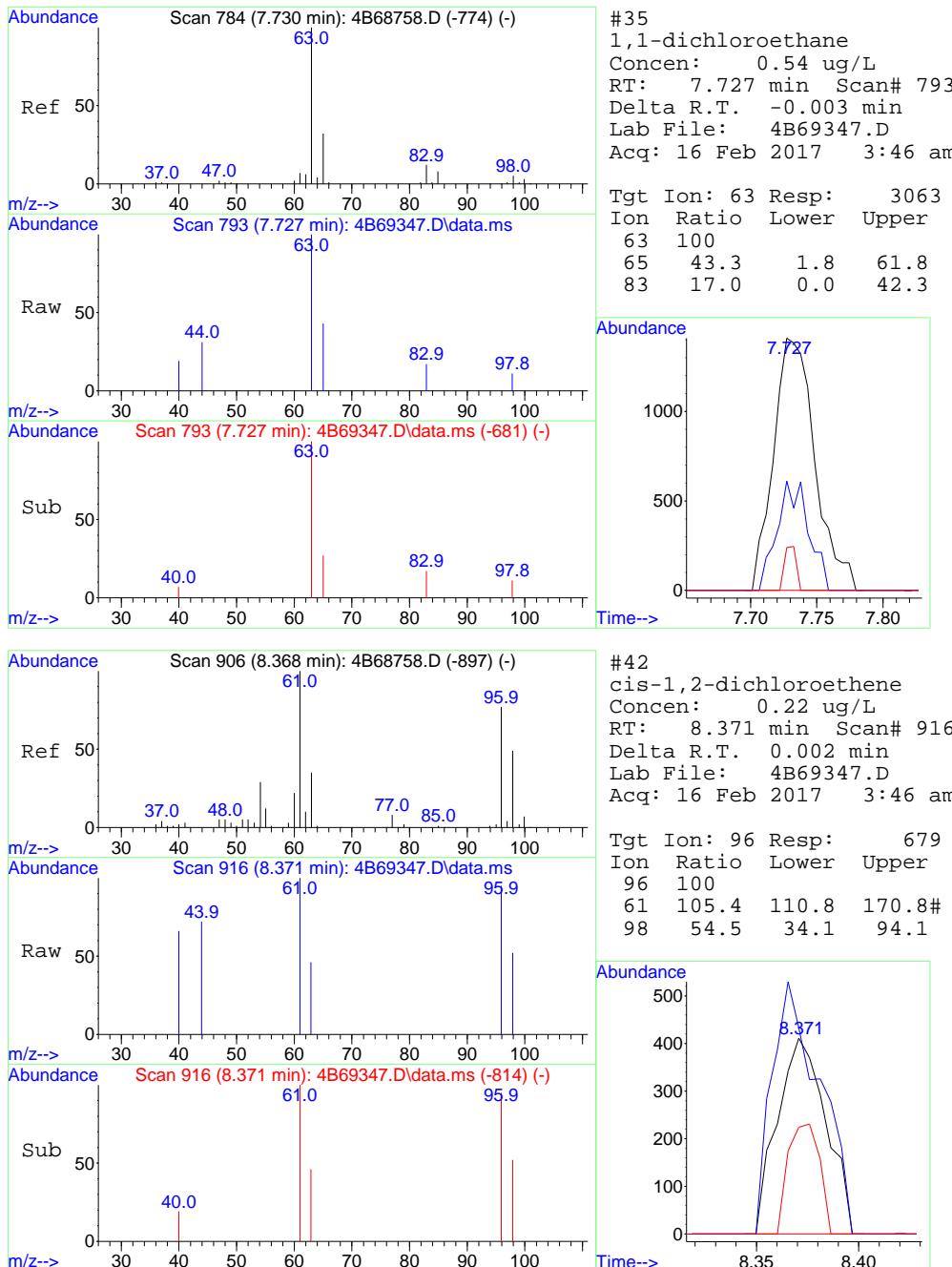
(#) = qualifier out of range (m) = manual integration (+) = signals summed

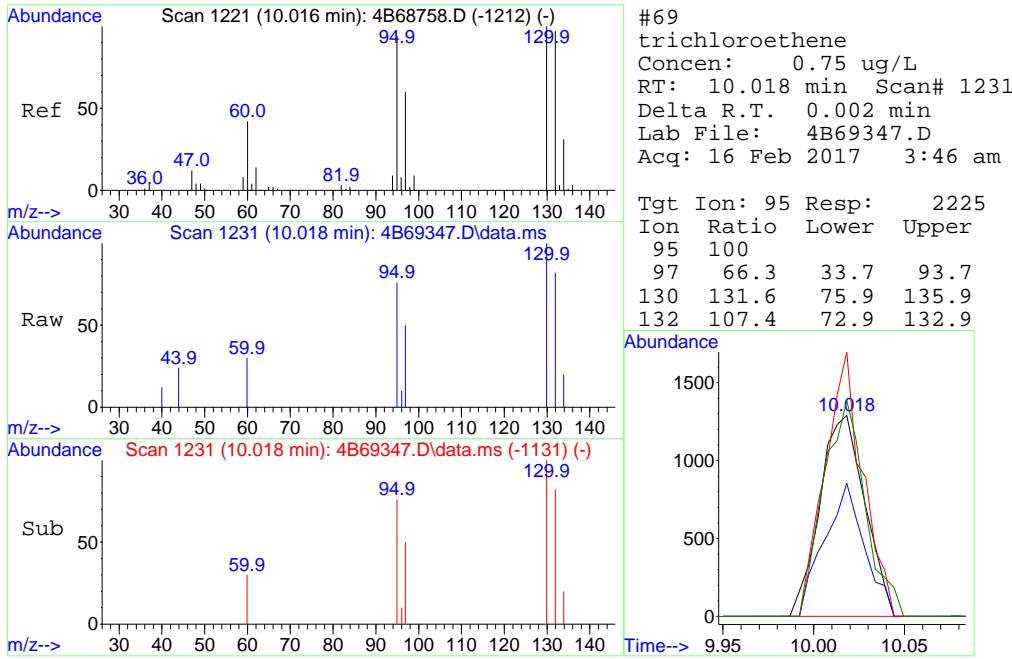
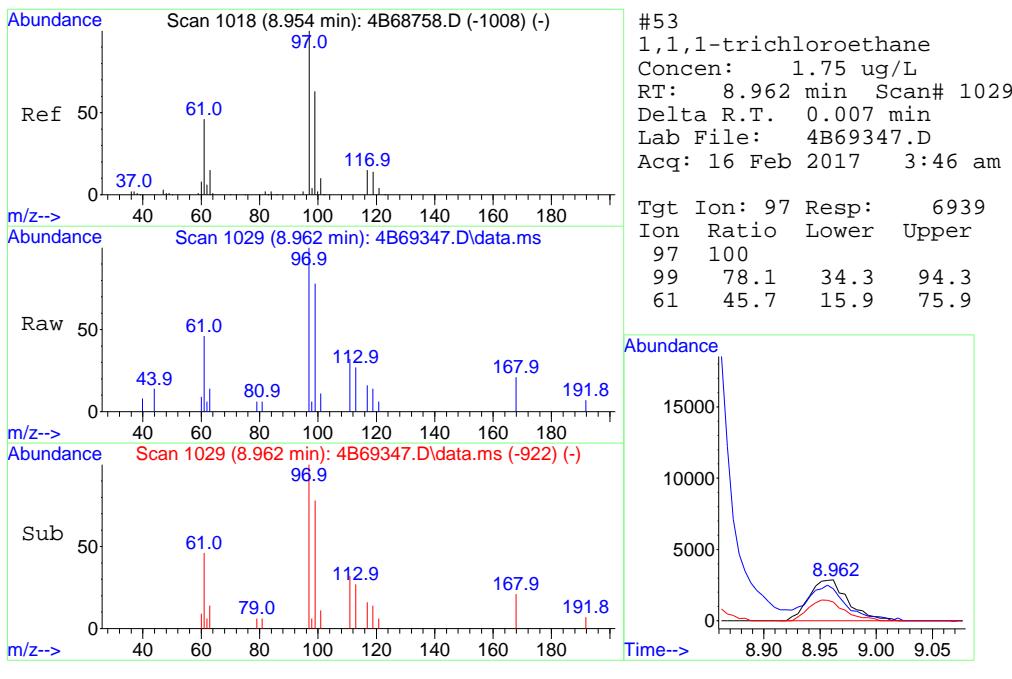
Quantitation Report (QT Reviewed)

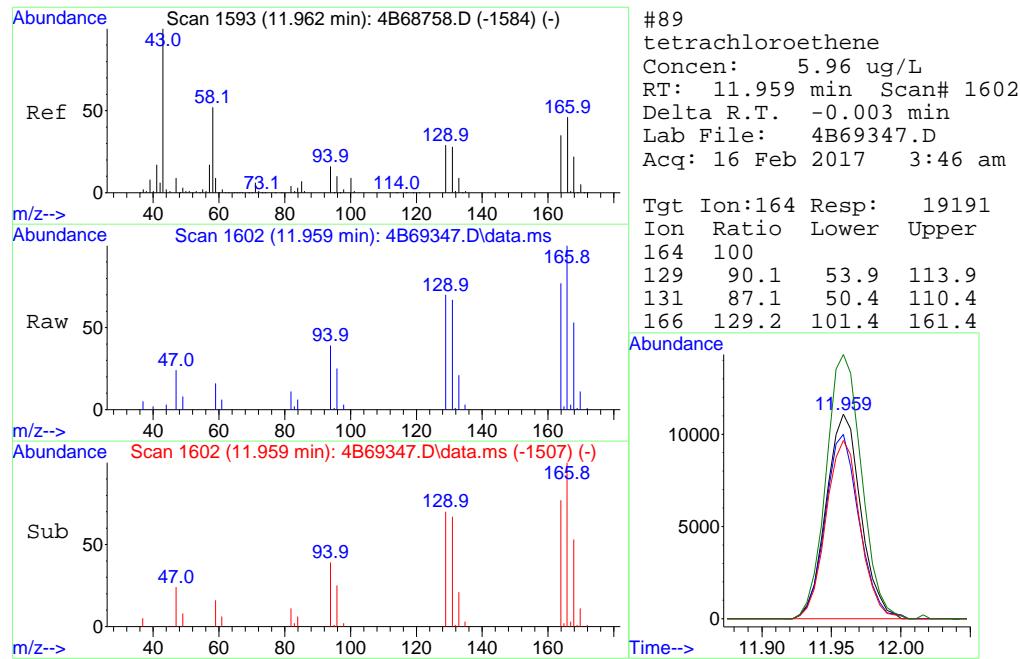
Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69347.D
 Acq On : 16 Feb 2017 3:46 am
 Operator : Hueanh
 Sample : jc37024-11
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 43 Sample Multiplier: 1

Quant Time: Feb 16 15:56:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration









Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69327.D

Acq On : 15 Feb 2017 7:11 pm

Operator : Hueanhht

Sample : jc37024-12

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 16 15:43:00 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	149870	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	314594	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	433507	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	402404	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	228999	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	314594	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	136229	51.28	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.56%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	152553	53.01	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	106.02%	
80) toluene-d8 (s)	11.310	98	496108	49.55	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.10%	
105) 4-bromofluorobenzene (s)	14.182	95	191071	50.95	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	101.90%	

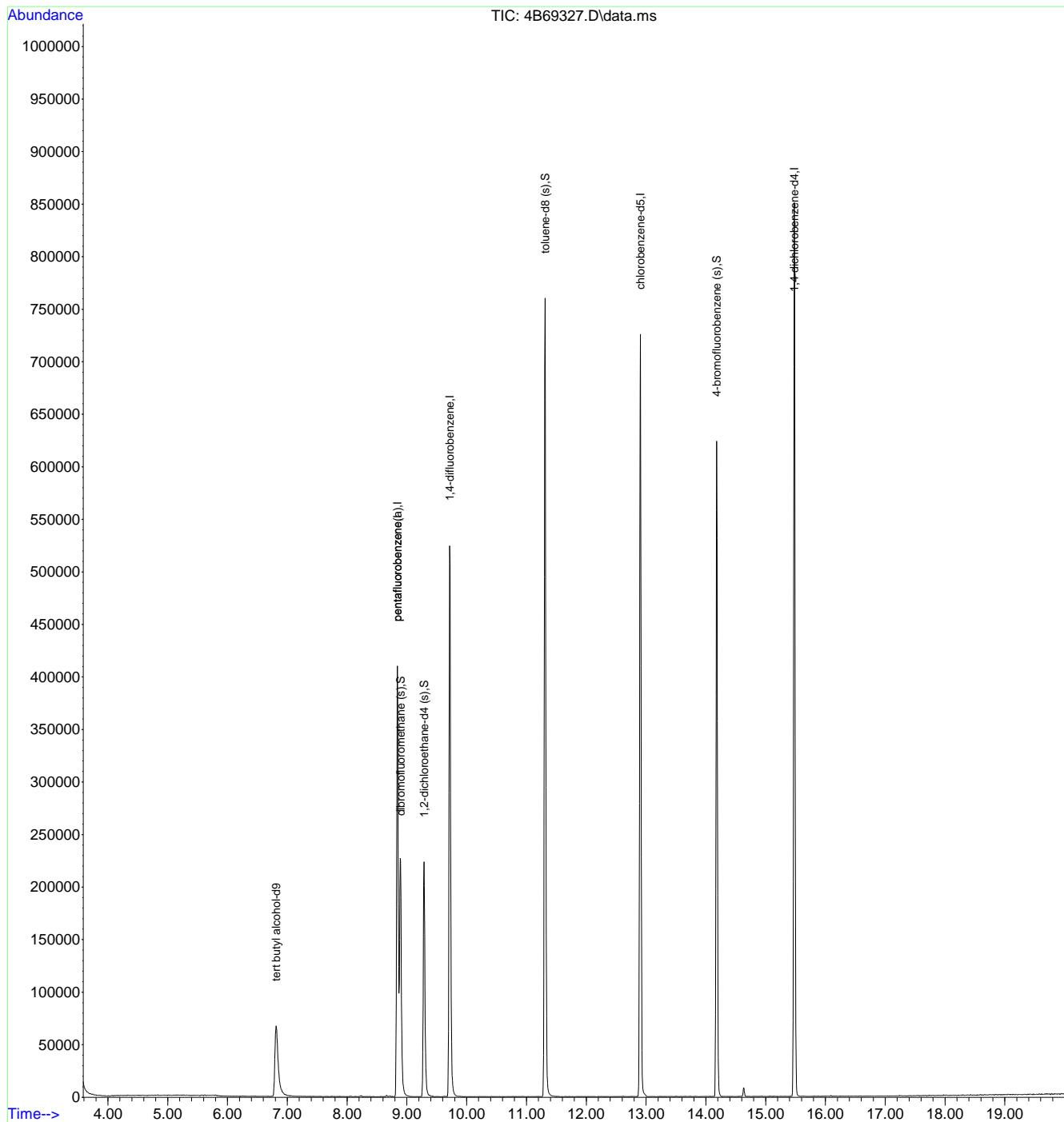
Target Compounds	Qvalue
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(#= qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69327.D
 Acq On : 15 Feb 2017 7:11 pm
 Operator : Hueanh
 Sample : jc37024-12
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 16 15:43:00 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69260.D
 Acq On : 14 Feb 2017 10:03 am
 Operator : Hueanh
 Sample : mb
 Misc : MS12448,V4B2850,5,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 15 10:28:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	135137	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	297050	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	409174	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	385608	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	218812	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	297050	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	128203	51.11	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.22%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	143045	52.64	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	105.28%	
80) toluene-d8 (s)	11.310	98	479467	50.74	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.48%	
105) 4-bromofluorobenzene (s)	14.181	95	183049	51.09	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.18%	

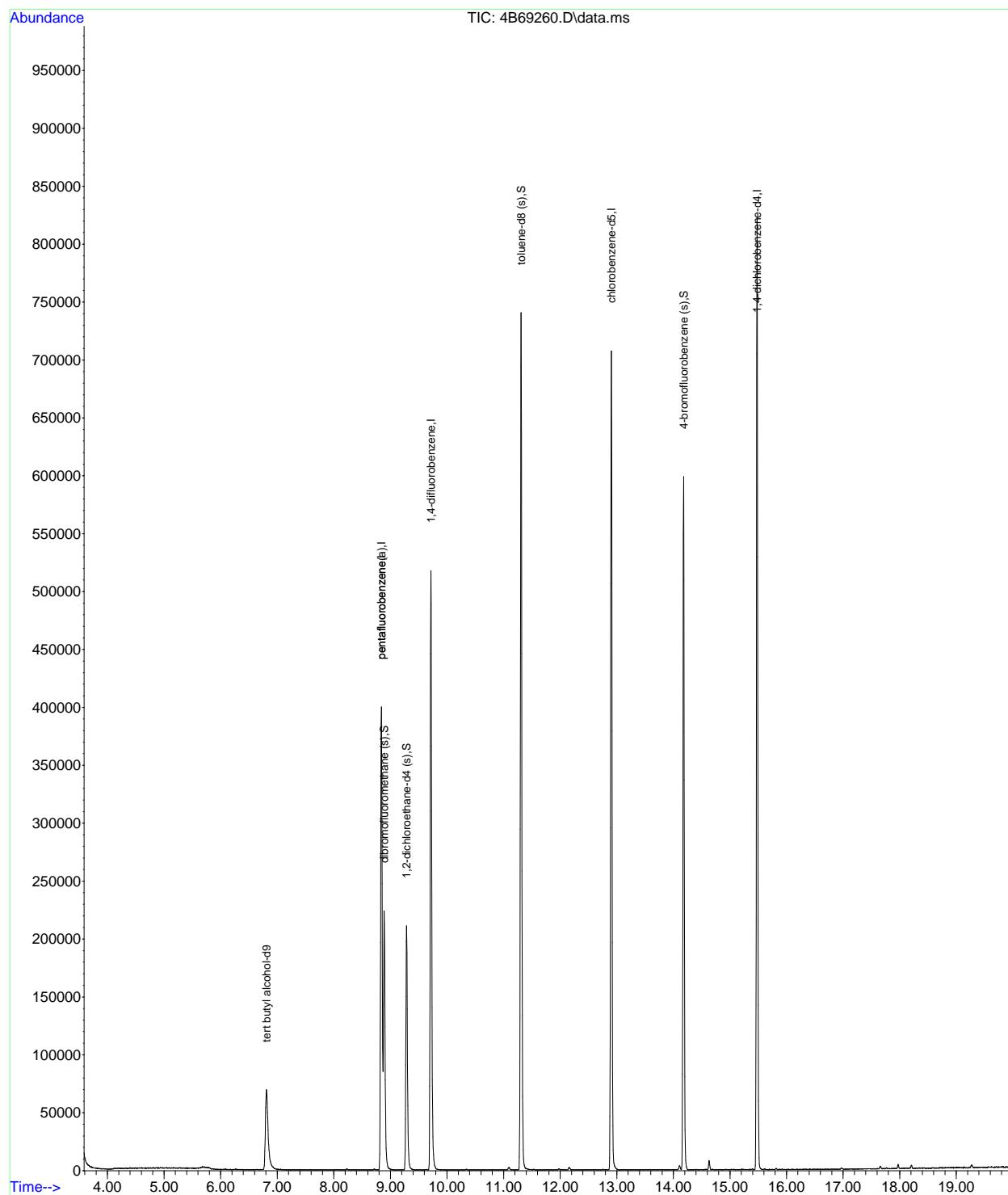
Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69260.D
 Acq On : 14 Feb 2017 10:03 am
 Operator : Hueanh
 Sample : mb
 Misc : MS12448,V4B2850,5,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 15 10:28:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69314.D
 Acq On : 15 Feb 2017 1:01 pm
 Operator : Hueanh
 Sample : mb
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 16 12:20:33 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	163222	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	321124	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	435996	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	408085	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	224501	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	321124	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	139088	51.29	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.58%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	152274	51.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	103.68%	
80) toluene-d8 (s)	11.310	98	505179	50.17	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.34%	
105) 4-bromofluorobenzene (s)	14.181	95	190925	51.94	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.88%	

Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69314.D

Acq On : 15 Feb 2017 1:01 pm

Operator : Hueanhht

Sample : mb

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 10 Sample Multiplier: 1

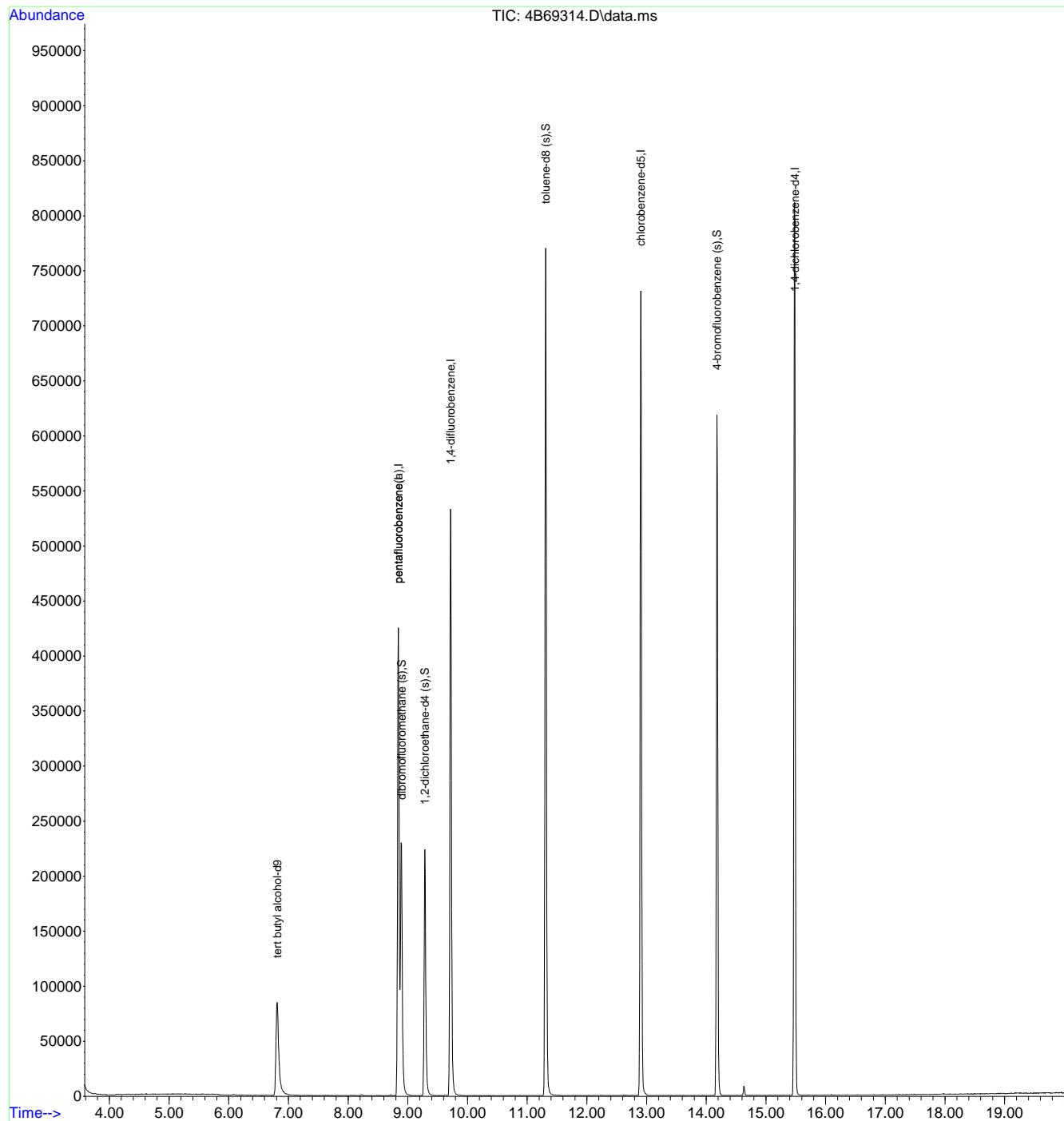
Quant Time: Feb 16 12:20:33 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69335.D
 Acq On : 15 Feb 2017 10:03 pm
 Operator : Hueanh
 Sample : mb2
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 16 15:46:42 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	157896	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	314371	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	429481	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	398682	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	229336	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	314371	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	135546	51.06	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.12%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150104	52.20	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	104.40%	
80) toluene-d8 (s)	11.310	98	492507	49.65	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.30%	
105) 4-bromofluorobenzene (s)	14.182	95	188902	50.30	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	100.60%	

Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69335.D

Acq On : 15 Feb 2017 10:03 pm

Operator : Hueanh

Sample : mb2

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 31 Sample Multiplier: 1

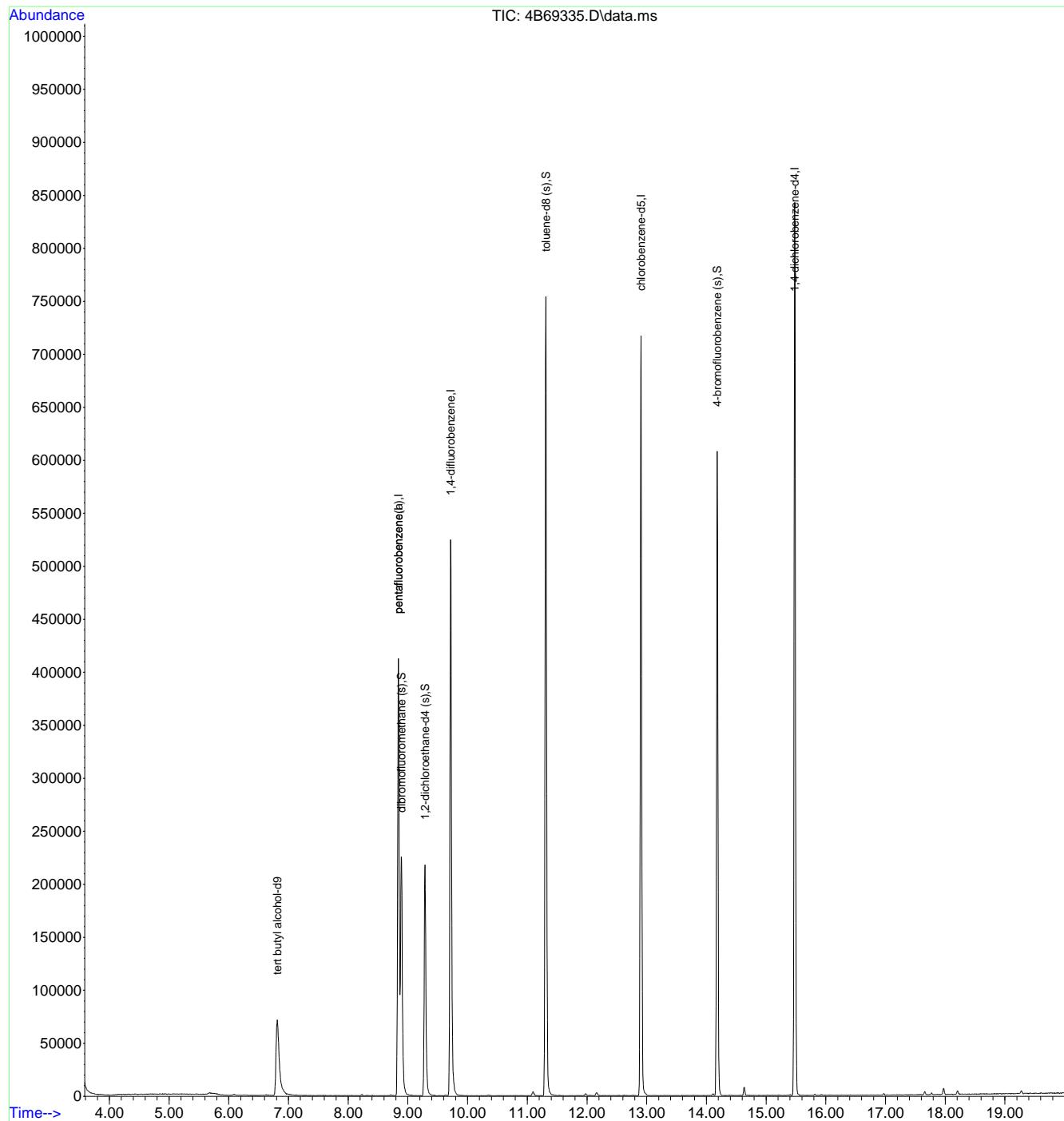
Quant Time: Feb 16 15:46:42 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration



M4B2825.M Thu Feb 16 15:46:46 2017

Page: 2

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69261.D
 Acq On : 14 Feb 2017 10:32 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12448,V4B2850,5,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 14 10:55:36 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	104899	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	279071	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	390421	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	362708	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	217190	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	279071	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	121581	51.59	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 103.18%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	130927	51.29	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 102.58%		
80) toluene-d8 (s)	11.310	98	452917	50.23	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 100.46%		
105) 4-bromofluorobenzene (s)	14.181	95	181565	51.05	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 102.10%		
Target Compounds						
2) tertiary butyl alcohol	6.911	59	72357	264.42	ug/L	95
3) 1,4-dioxane	10.337	88	30717	1294.28	ug/L	94
7) chlorodifluoromethane	3.862	51	203766	46.17	ug/L	98
8) dichlorodifluoromethane	3.820	85	204991	53.54	ug/L	99
10) chloromethane	4.176	52	100476	52.43	ug/L	99
11) vinyl chloride	4.396	62	239744	46.97	ug/L	98
12) bromomethane	4.987	94	128447	54.38	ug/L	97
13) chloroethane	5.170	64	112395	49.35	ug/L	98
14) vinyl bromide	5.447	106	160062	50.25	ug/L	99
15) trichlorofluoromethane	5.510	101	227510	51.94	ug/L	99
16) 1,3-butadiene	4.469	54	177691	42.38	ug/L	99
19) ethyl ether	5.876	74	81336	51.60	ug/L	92
20) 2-chloropropane	6.074	39	60564	56.73	ug/L	89
21) acrolein	6.085	56	313954	496.67	ug/L	100
22) 1,1-dichloroethene	6.252	96	135116	52.30	ug/L	99
23) acetone	6.258	58	51651	168.67	ug/L	91
24) allyl chloride	6.713	76	202073	91.98	ug/L	# 76
25) acetonitrile	6.624	40	87095	486.63	ug/L	97
26) iodomethane	6.482	142	226721	42.65	ug/L	96
27) carbon disulfide	6.608	76	389037	47.51	ug/L	99
28) methylene chloride	6.869	84	147275	50.69	ug/L	98
29) methyl acetate	6.650	74	21002	48.24	ug/L	# 77
31) methyl tert butyl ether	7.173	73	757155	95.48	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	131372	50.48	ug/L	96
33) di-isopropyl ether	7.696	45	552702	50.17	ug/L	97
34) 2-butanone	8.308	72	68810	206.37	ug/L	# 87
35) 1,1-dichloroethane	7.732	63	268169	51.05	ug/L	100
36) chloroprene	7.816	53	226671	53.31	ug/L	97
37) acrylonitrile	7.131	53	274249	244.79	ug/L	99
38) vinyl acetate	7.659	86	26587	51.25	ug/L	99
39) ethyl tert-butyl ether	8.109	59	475569	50.90	ug/L	99
40) ethyl acetate	8.308	45	23010	47.86	ug/L	77
41) 2,2-dichloropropane	8.397	77	131735	50.56	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	155409	53.45	ug/L	97
43) methylacrylate	8.391	85	19781	47.37	ug/L	94
44) propionitrile	8.386	54	194710	471.58	ug/L	91
45) bromochloromethane	8.643	128	78206	53.80	ug/L	97
46) tetrahydrafuran	8.658	42	48078	48.86	ug/L	98
47) chloroform	8.710	85	163965	51.70	ug/L	98
48) T-BUTYL FORMATE	8.742	59	84624	36.94	ug/L	93
51) freon 113	6.252	151	124340	56.11	ug/L	95
52) methacrylonitrile	8.559	41	93131	45.24	ug/L	97
53) 1,1,1-trichloroethane	8.956	97	195716	53.19	ug/L	99
54) cyclohexane	9.056	84	165448	43.87	ug/L	# 82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69261.D
 Acq On : 14 Feb 2017 10:32 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12448,V4B2850,5,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 14 10:55:36 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.865	57	71623	238.68	ug/L	98
58) n-butyl alcohol	9.746	56	194603	2121.82	ug/L	97
59) carbon tetrachloride	9.134	117	173880	53.03	ug/L	100
60) 1,1-dichloropropene	9.108	75	196115	51.21	ug/L	98
61) hexane	7.518	57	154009	34.35	ug/L	98
62) Tert Amyl alcohol	9.207	73	30573	206.09	ug/L	92
63) benzene	9.343	78	558320	49.95	ug/L	99
64) iso-octane	9.417	57	577778	48.48	ug/L	98
65) tert-amyl methyl ether	9.401	87	90022	51.70	ug/L	97
66) heptane	9.553	57	153297	54.38	ug/L	98
67) isopropyl acetate	9.234	61	57298	49.54	ug/L	93
68) 1,2-dichloroethane	9.370	62	185655	51.96	ug/L	100
69) trichloroethene	10.013	95	148760	53.08	ug/L	97
71) ethyl acrylate	9.987	55	179672	49.24	ug/L	99
72) 2-nitropropane	10.750	41	56281	49.93	ug/L	88
73) 2-chloroethyl vinyl ether	10.771	63	476444	252.61	ug/L	99
74) methyl methacrylate	10.243	100	35996	46.02	ug/L	#
75) 1,2-dichloropropane	10.300	63	161923	53.24	ug/L	99
76) dibromomethane	10.405	93	92841	51.58	ug/L	99
77) methylcyclohexane	10.295	83	229884	49.06	ug/L	98
78) bromodichloromethane	10.546	83	205380	56.29	ug/L	99
79) cis-1,3-dichloropropene	10.996	75	264669	54.28	ug/L	97
81) 4-methyl-2-pentanone	11.095	58	263984	212.93	ug/L	99
82) toluene	11.388	92	350286	49.44	ug/L	99
83) 3-methyl-1-butanol	11.085	55	125832	978.98	ug/L	99
84) trans-1,3-dichloropropene	11.577	75	226411	53.73	ug/L	99
85) ethyl methacrylate	11.551	69	182942	47.30	ug/L	99
86) 1,1,2-trichloroethane	11.807	83	114008	50.36	ug/L	99
87) 2-hexanone	11.969	58	258235	202.53	ug/L	96
89) tetrachloroethylene	11.958	164	143313	48.04	ug/L	97
90) 1,3-dichloropropane	12.000	76	214979	46.97	ug/L	98
91) butyl acetate	12.047	56	100119	47.35	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	119595	457.12	ug/L	98
93) dibromochloromethane	12.262	129	166032	58.06	ug/L	98
94) 1,2-dibromoethane	12.429	107	146952	48.90	ug/L	97
95) n-butyl ether	12.879	57	712953	52.21	ug/L	99
96) chlorobenzene	12.937	112	405617	50.12	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.010	131	147888	51.34	ug/L	98
98) ethylbenzene	12.999	91	666286	49.38	ug/L	99
99) m,p-xylene	13.130	106	523608	98.98	ug/L	98
100) o-xylene	13.569	106	269355	50.87	ug/L	97
101) styrene	13.585	104	450568	48.66	ug/L	96
102) bromoform	13.841	173	122904	50.37	ug/L	98
104) isopropylbenzene	13.951	105	712548	50.05	ug/L	99
106) cyclohexanone	14.103	55	61097	87.16	ug/L	99
107) bromobenzene	14.385	156	204416	49.54	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.265	83	186856	47.85	ug/L	100
109) trans-1,4-dichloro-2-b...	14.302	53	43356	51.21	ug/L	99
110) 1,2,3-trichloropropane	14.364	110	46892	47.97	ug/L	99
111) n-propylbenzene	14.411	91	841866	51.36	ug/L	100
113) 2-chlorotoluene	14.563	126	182412	51.05	ug/L	99
114) 4-chlorotoluene	14.689	91	521926	51.29	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	583522	49.97	ug/L	99
116) tert-butylbenzene	14.966	119	554032	51.43	ug/L	98
117) pentachloroethane	15.044	167	129125	56.54	ug/L	98
118) 1,2,4-trimethylbenzene	15.023	105	620400	52.22	ug/L	100
119) sec-butylbenzene	15.206	105	833134	52.12	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	387770	50.27	ug/L	99
121) p-isopropyltoluene	15.353	119	725579	52.18	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	387973	51.63	ug/L	98
123) benzyl chloride	15.609	91	340306	51.19	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	385269	51.46	ug/L	100
126) n-butylbenzene	15.813	92	388318	52.73	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\

Data File : 4B69261.D

Acq On : 14 Feb 2017 10:32 am

Operator : Hueanht

Sample : bs

Misc : MS12448,V4B2850,5,,,,1

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 14 10:55:36 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.770	75	35016	52.52	ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.969	180	369186	55.81	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	306599	52.07	ug/L	99
131) hexachlorobutadiene	17.769	225	169204	48.97	ug/L	99
132) naphthalene	17.968	128	512455	48.12	ug/L	100
133) 1,2,3-trichlorobenzene	18.203	180	260950	50.35	ug/L	100
134) hexachloroethane	16.247	201	147287	56.62	ug/L	99
135) 2-ethylhexyl acrylate	17.659	70	21327	13.32	ug/L	94
136) 2-methylnaphthalene	19.270	142	1214	0.47	ug/L	93

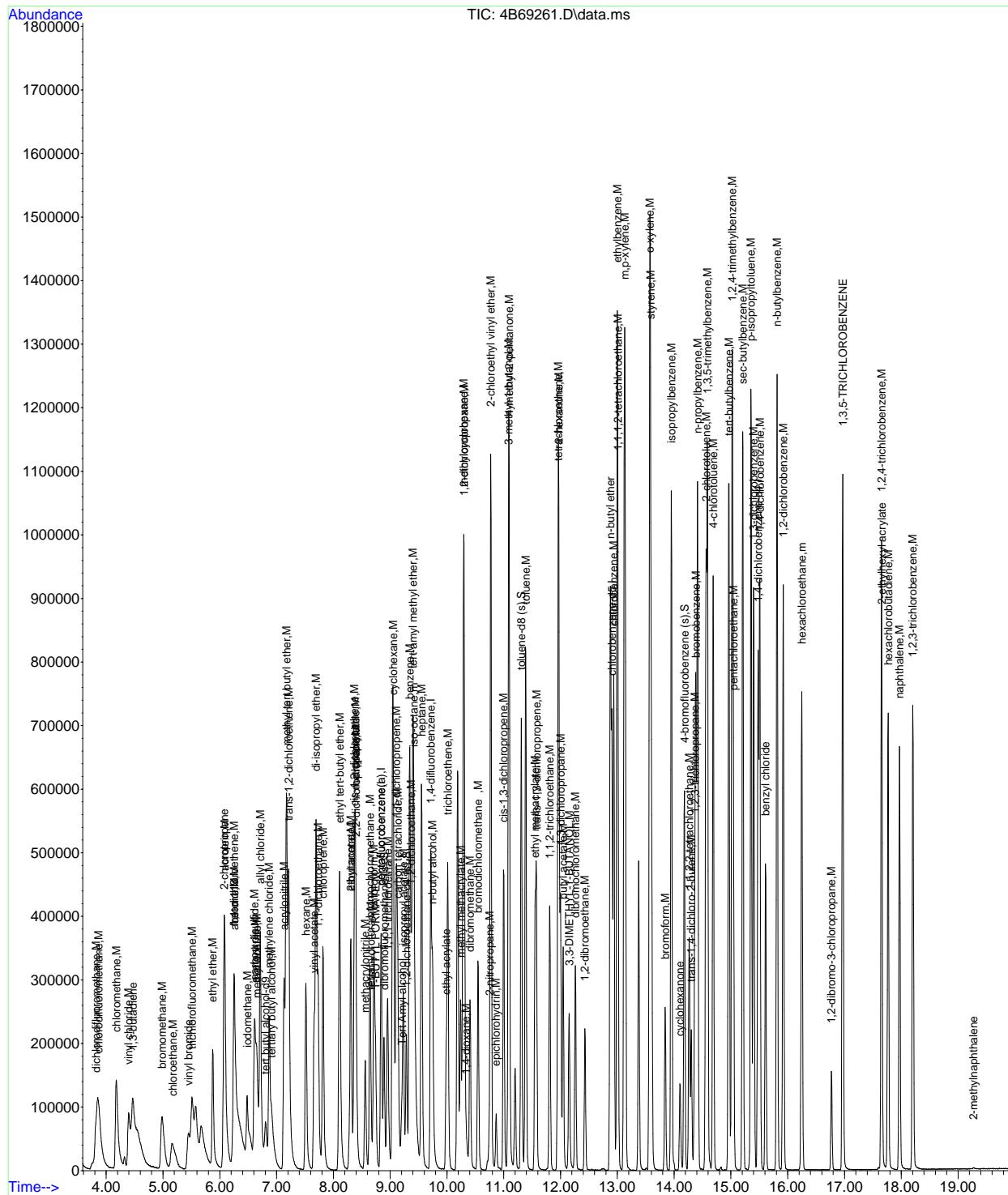
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
Data File : 4B69261.D
Acq On : 14 Feb 2017 10:32 am
Operator : Hueanh
Sample : bs
Misc : MS12448,V4B2850,5,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 14 10:55:36 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69315.D
 Acq On : 15 Feb 2017 1:29 pm
 Operator : Hueanh
 Sample : bs
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 12:21:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	127260	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	289957	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	403716	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	375878	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	228760	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	289957	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	126909	51.83	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 103.66%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	134352	50.65	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 101.30%		
80) toluene-d8 (s)	11.310	98	461581	49.50	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.00%		
105) 4-bromofluorobenzene (s)	14.181	95	188932	50.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 100.88%		
Target Compounds						
				Qvalue		
2) tertiary butyl alcohol	6.906	59	84835	255.54	ug/L	96
3) 1,4-dioxane	10.342	88	38520	1337.88	ug/L	96
7) chlorodifluoromethane	3.862	51	200877	43.80	ug/L	98
8) dichlorodifluoromethane	3.831	85	187692	47.18	ug/L	100
10) chloromethane	4.171	52	84899	42.64	ug/L	98
11) vinyl chloride	4.401	62	234541	44.23	ug/L	98
12) bromomethane	4.976	94	130617	53.23	ug/L	95
13) chloroethane	5.149	64	123037	52.00	ug/L	98
14) vinyl bromide	5.442	106	162288	49.04	ug/L	100
15) trichlorofluoromethane	5.525	101	223069	49.01	ug/L	99
16) 1,3-butadiene	4.469	54	223196	51.24	ug/L	99
19) ethyl ether	5.876	74	84701	51.72	ug/L	93
20) 2-chloropropane	6.075	39	67105	60.50	ug/L	89
21) acrolein	6.085	56	332597	506.41	ug/L	98
22) 1,1-dichloroethene	6.252	96	131417	48.96	ug/L	97
23) acetone	6.258	58	65152	204.76	ug/L	98
24) allyl chloride	6.713	76	111351	46.94	ug/L	94
25) acetonitrile	6.624	40	100151	538.57	ug/L	98
26) iodomethane	6.514	142	278052	50.34	ug/L	98
27) carbon disulfide	6.613	76	460104	54.08	ug/L	99
28) methylene chloride	6.870	84	152321	50.45	ug/L	99
29) methyl acetate	6.650	74	23563	52.09	ug/L	# 79
31) methyl tert butyl ether	7.173	73	789156	95.78	ug/L	100
32) trans-1,2-dichloroethene	7.215	96	133233	49.28	ug/L	99
33) di-isopropyl ether	7.696	45	560458	48.96	ug/L	99
34) 2-butanone	8.308	72	84756	244.65	ug/L	99
35) 1,1-dichloroethane	7.733	63	268098	49.12	ug/L	99
36) chloroprene	7.816	53	230208	52.11	ug/L	98
37) acrylonitrile	7.131	53	303179	260.45	ug/L	99
38) vinyl acetate	7.659	86	29108	54.00	ug/L	96
39) ethyl tert-butyl ether	8.109	59	488399	50.31	ug/L	99
40) ethyl acetate	8.308	45	25467	50.98	ug/L	91
41) 2,2-dichloropropane	8.397	77	134643	49.73	ug/L	99
42) cis-1,2-dichloroethene	8.371	96	154772	51.23	ug/L	100
43) methylacrylate	8.392	85	22225	51.23	ug/L	96
44) propionitrile	8.386	54	220443	513.86	ug/L	91
45) bromochloromethane	8.643	128	81184	53.75	ug/L	98
46) tetrahydrofuran	8.658	42	54152	52.97	ug/L	99
47) chloroform	8.716	85	164285	49.85	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69315.D
 Acq On : 15 Feb 2017 1:29 pm
 Operator : Hueanh
 Sample : bs
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 12:21:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.742	59	95486	40.12	ug/L	94
51) freon 113	6.258	151	140641	61.08	ug/L	98
52) methacrylonitrile	8.559	41	101036	47.24	ug/L	97
53) 1,1,1-trichloroethane	8.956	97	205327	53.70	ug/L	100
54) cyclohexane	9.056	84	192972	49.24	ug/L	83
57) epichlorohydrin	10.865	57	82666	266.41	ug/L	96
58) n-butyl alcohol	9.746	56	239163	2521.80	ug/L	99
59) carbon tetrachloride	9.134	117	178801	52.73	ug/L	98
60) 1,1-dichloropropene	9.108	75	194399	49.09	ug/L	98
61) hexane	7.518	57	175191	37.79	ug/L	99
62) Tert Amyl alcohol	9.202	73	37763	246.17	ug/L	94
63) benzene	9.343	78	561538	48.58	ug/L	100
64) iso-octane	9.417	57	582444	47.26	ug/L	99
65) tert-amyl methyl ether	9.401	87	96085	53.36	ug/L	98
66) heptane	9.553	57	136532	46.84	ug/L	99
67) isopropyl acetate	9.234	61	63460	53.06	ug/L	97
68) 1,2-dichloroethane	9.370	62	188407	50.99	ug/L	99
69) trichloroethene	10.013	95	151615	52.32	ug/L	98
71) ethyl acrylate	9.987	55	197785	52.42	ug/L	100
72) 2-nitropropane	10.750	41	61139	52.45	ug/L #	79
73) 2-chloroethyl vinyl ether	10.771	63	508850	260.91	ug/L	100
74) methyl methacrylate	10.243	100	40026	49.49	ug/L #	88
75) 1,2-dichloropropane	10.301	63	161149	51.24	ug/L	99
76) dibromomethane	10.405	93	95656	51.39	ug/L	98
77) methylcyclohexane	10.301	83	229420	47.35	ug/L	99
78) bromodichloromethane	10.552	83	207613	55.03	ug/L	99
79) cis-1,3-dichloropropene	11.001	75	263163	52.19	ug/L	99
81) 4-methyl-2-pentanone	11.096	58	301884	235.48	ug/L	99
82) toluene	11.388	92	352650	48.14	ug/L	99
83) 3-methyl-1-butanol	11.085	55	148129	1114.50	ug/L	98
84) trans-1,3-dichloropropene	11.577	75	224158	51.45	ug/L	100
85) ethyl methacrylate	11.551	69	198974	49.75	ug/L	99
86) 1,1,2-trichloroethane	11.812	83	121495	51.90	ug/L	99
87) 2-hexanone	11.969	58	293069	222.28	ug/L	97
89) tetrachloroethene	11.959	164	150910	48.82	ug/L	97
90) 1,3-dichloropropane	12.000	76	223152	47.05	ug/L	100
91) butyl acetate	12.047	56	111789	51.02	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	137942	508.78	ug/L	97
93) dibromochloromethane	12.262	129	168323	56.80	ug/L	97
94) 1,2-dibromoethane	12.429	107	155913	50.06	ug/L	97
95) n-butyl ether	12.879	57	718022	50.74	ug/L	100
96) chlorobenzene	12.937	112	409755	48.86	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.010	131	151911	50.89	ug/L	98
98) ethylbenzene	12.999	91	673025	48.13	ug/L	99
99) m,p-xylene	13.130	106	529926	96.67	ug/L	98
100) o-xylene	13.569	106	274832	50.08	ug/L	98
101) styrene	13.585	104	458579	47.79	ug/L	97
102) bromoform	13.847	173	124259	49.16	ug/L	97
104) isopropylbenzene	13.951	105	718164	47.89	ug/L	100
106) cyclohexanone	14.108	55	61880	83.81	ug/L	98
107) bromobenzene	14.385	156	211479	48.66	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	206029	50.09	ug/L	98
109) trans-1,4-dichloro-2-b...	14.302	53	20597	24.00	ug/L	98
110) 1,2,3-trichloropropane	14.364	110	52971	51.45	ug/L	96
111) n-propylbenzene	14.412	91	842711	48.81	ug/L	100
113) 2-chlorotoluene	14.563	126	187851	49.92	ug/L	99
114) 4-chlorotoluene	14.689	91	529979	49.44	ug/L	100
115) 1,3,5-trimethylbenzene	14.589	105	590877	48.04	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69315.D
 Acq On : 15 Feb 2017 1:29 pm
 Operator : Hueanh
 Sample : bs
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 12:21:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116) tert-butylbenzene	14.966	119	563538	49.66	ug/L	98
117) pentachloroethane	15.044	167	129190	53.70	ug/L	99
118) 1,2,4-trimethylbenzene	15.023	105	632168	50.52	ug/L	99
119) sec-butylbenzene	15.212	105	851663	50.58	ug/L	99
120) 1,3-dichlorobenzene	15.405	146	400553	49.30	ug/L	98
121) p-isopropyltoluene	15.358	119	741179	50.60	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	398350	50.33	ug/L	99
123) benzyl chloride	15.615	91	336968	48.12	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	402374	51.03	ug/L	100
126) n-butylbenzene	15.813	92	390847	50.39	ug/L	99
128) 1,2-dibromo-3-chloropr...	16.770	75	37152	52.90	ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.969	180	369647	53.05	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	310658	50.09	ug/L	99
131) hexachlorobutadiene	17.769	225	167485	46.03	ug/L	97
132) naphthalene	17.968	128	541476	48.28	ug/L	99
133) 1,2,3-trichlorobenzene	18.209	180	267518	49.00	ug/L	99
134) hexachloroethane	16.253	201	136718	49.90	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	16373	10.07	ug/L	98

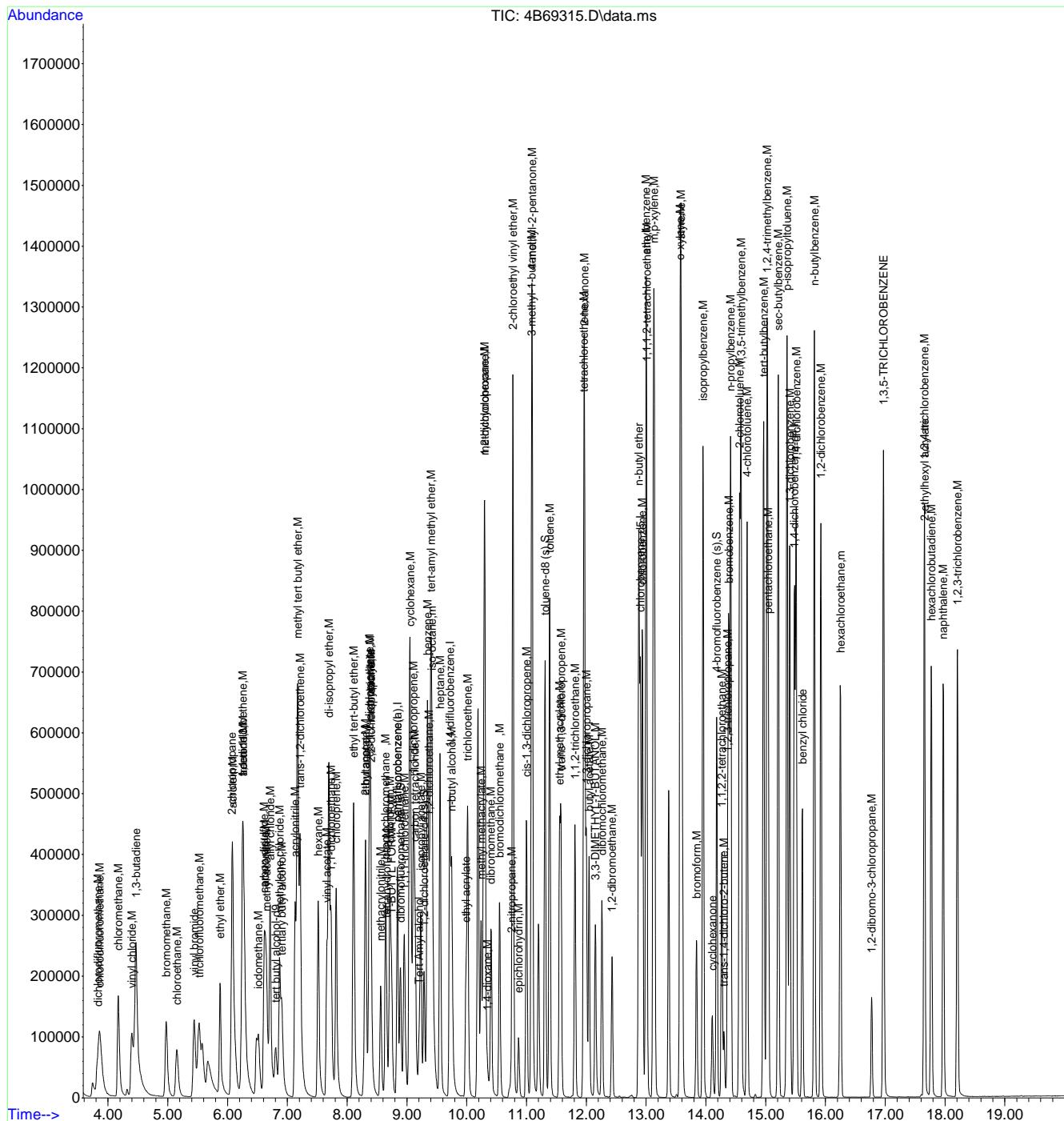
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
Data File : 4B69315.D
Acq On : 15 Feb 2017 1:29 pm
Operator : Hueanh
Sample : bs
Misc : MS12524,V4B2853,5,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 12:21:22 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69267.D
 Acq On : 14 Feb 2017 1:23 pm
 Operator : Hueanht
 Sample : jc37024-8ms
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 15 10:33:35 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	118522	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	273295	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	378063	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	354805	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	212344	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	273295	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	118516	51.35	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	102.70%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	124184	49.68	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	99.36%		
80) toluene-d8 (s)	11.310	98	442977	50.73	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	101.46%		
105) 4-bromofluorobenzene (s)	14.182	95	175047	50.34	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	100.68%		
Target Compounds						
2) tertiary butyl alcohol	6.912	59	75657	244.70	ug/L	95
3) 1,4-dioxane	10.337	88	29594	1103.64	ug/L	97
7) chlorodifluoromethane	3.862	51	187977	43.49	ug/L	96
8) dichlorodifluoromethane	3.826	85	213203	56.86	ug/L	99
10) chloromethane	4.171	52	86705	46.20	ug/L	97
11) vinyl chloride	4.401	62	239547	47.93	ug/L	99
12) bromomethane	4.971	94	117733	50.90	ug/L	97
13) chloroethane	5.144	64	115554	51.81	ug/L	100
14) vinyl bromide	5.437	106	157261	50.42	ug/L	99
15) trichlorofluoromethane	5.520	101	227120	52.95	ug/L	99
16) 1,3-butadiene	4.464	54	198236	48.28	ug/L	99
19) ethyl ether	5.876	74	66261	42.93	ug/L	95
20) 2-chloropropane	6.075	39	61318	58.65	ug/L	93
21) acrolein	6.085	56	258309	417.27	ug/L	96
22) 1,1-dichloroethene	6.253	96	111218	43.96	ug/L	96
23) acetone	6.258	58	45819	152.78	ug/L	86
24) allyl chloride	6.713	76	84112	37.28	ug/L	# 81
25) acetonitrile	6.624	40	79991	456.38	ug/L	94
26) iodomethane	6.483	142	234018	44.95	ug/L	98
27) carbon disulfide	6.613	76	350068	43.66	ug/L	100
28) methylene chloride	6.870	84	128062	45.01	ug/L	97
29) methyl acetate	6.650	74	17737	41.60	ug/L	# 82
31) methyl tert butyl ether	7.173	73	655092	84.36	ug/L	100
32) trans-1,2-dichloroethene	7.215	96	121219	47.57	ug/L	96
33) di-isopropyl ether	7.696	45	506193	46.92	ug/L	97
34) 2-butanone	8.308	72	61391	188.01	ug/L	# 87
35) 1,1-dichloroethane	7.733	63	254590	49.49	ug/L	99
36) chloroprene	7.816	53	222723	53.49	ug/L	96
37) acrylonitrile	7.131	53	230171	209.79	ug/L	99
38) vinyl acetate	7.665	86	21943	43.19	ug/L	86
39) ethyl tert-butyl ether	8.109	59	422574	46.18	ug/L	100
40) ethyl acetate	8.313	45	20358	43.24	ug/L	66
41) 2,2-dichloropropane	8.392	77	137287	53.80	ug/L	99
42) cis-1,2-dichloroethene	8.371	96	140848	49.47	ug/L	99
43) methylacrylate	8.392	85	17112	41.85	ug/L	96
44) propionitrile	8.386	54	168420	416.53	ug/L	92
45) bromochloromethane	8.643	128	67594	47.48	ug/L	96
46) tetrahydrofuran	8.658	42	40761	42.30	ug/L	98
47) chloroform	8.716	85	151050	48.63	ug/L	100
48) T-BUTYL FORMATE	8.742	59	25482	11.36	ug/L	87
51) freon 113	6.253	151	140388	64.69	ug/L	94
52) methacrylonitrile	8.559	41	80682	40.02	ug/L	99
53) 1,1,1-trichloroethane	8.951	97	199834	55.45	ug/L	99
54) cyclohexane	9.056	84	201606	54.58	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69267.D
 Acq On : 14 Feb 2017 1:23 pm
 Operator : Hueanht
 Sample : jc37024-8ms
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 15 10:33:35 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.866	57	55398	190.65	ug/L	96
58) n-butyl alcohol	9.746	56	196380	2211.18	ug/L	97
59) carbon tetrachloride	9.134	117	175350	55.22	ug/L	97
60) 1,1-dichloropropene	9.108	75	184929	49.86	ug/L	98
61) hexane	7.518	57	180915	41.67	ug/L	99
62) Tert Amyl alcohol	9.208	73	34233	238.30	ug/L	92
63) benzene	9.344	78	510176	47.13	ug/L	100
64) iso-octane	9.417	57	617676	53.52	ug/L	99
65) tert-amyl methyl ether	9.396	87	81119	48.11	ug/L	93
66) heptane	9.553	57	144593	52.97	ug/L	99
67) isopropyl acetate	9.234	61	51435	45.92	ug/L	99
68) 1,2-dichloroethane	9.370	62	161297	46.61	ug/L	98
69) trichloroethene	10.013	95	140343	51.71	ug/L	98
71) ethyl acrylate	9.987	55	156277	44.23	ug/L	98
72) 2-nitropropane	10.745	41	33143	30.36	ug/L	# 32
74) methyl methacrylate	10.238	100	31385	41.44	ug/L	# 90
75) 1,2-dichloropropane	10.301	63	144838	49.18	ug/L	100
76) dibromomethane	10.405	93	78681	45.14	ug/L	97
77) methylcyclohexane	10.301	83	235483	51.90	ug/L	98
78) bromodichloromethane	10.547	83	182692	51.71	ug/L	100
79) cis-1,3-dichloropropene	11.002	75	237644	50.33	ug/L	98
81) 4-methyl-2-pentanone	11.090	58	250437	208.61	ug/L	92
82) toluene	11.389	92	325449	47.44	ug/L	99
83) 3-methyl-1-butanol	11.085	55	141673	1138.26	ug/L	98
84) trans-1,3-dichloropropene	11.577	75	194719	47.72	ug/L	99
85) ethyl methacrylate	11.551	69	165317	44.14	ug/L	97
86) 1,1,2-trichloroethane	11.812	83	100055	45.64	ug/L	97
87) 2-hexanone	11.969	58	241999	196.00	ug/L	96
89) tetrachloroethene	11.959	164	142276	48.76	ug/L	98
90) 1,3-dichloropropane	12.001	76	185911	41.52	ug/L	99
91) butyl acetate	12.048	56	96833	46.82	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	155586	607.94	ug/L	97
93) dibromochloromethane	12.262	129	141921	50.73	ug/L	100
94) 1,2-dibromoethane	12.429	107	125480	42.68	ug/L	98
95) n-butyl ether	12.879	57	662324	49.59	ug/L	100
96) chlorobenzene	12.937	112	371304	46.90	ug/L	100
97) 1,1,2-tetrachloroethane	13.010	131	135485	48.08	ug/L	96
98) ethylbenzene	13.000	91	627472	47.54	ug/L	98
99) m,p-xylene	13.130	106	489488	94.59	ug/L	97
100) o-xylene	13.570	106	250645	48.39	ug/L	100
101) styrene	13.585	104	407737	45.02	ug/L	98
102) bromoform	13.842	173	102381	43.01	ug/L	98
104) isopropylbenzene	13.951	105	674531	48.46	ug/L	99
106) cyclohexanone	14.103	55	43640	63.67	ug/L	97
107) bromobenzene	14.386	156	184599	45.76	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	161559	42.32	ug/L	98
109) trans-1,4-dichloro-2-b...	14.302	53	32857	40.07	ug/L	99
110) 1,2,3-trichloropropene	14.365	110	40429	42.30	ug/L	98
111) n-propylbenzene	14.412	91	798957	49.85	ug/L	100
113) 2-chlorotoluene	14.563	126	170031	48.67	ug/L	96
114) 4-chlorotoluene	14.689	91	483593	48.60	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	548754	48.07	ug/L	99
116) tert-butylbenzene	14.966	119	528842	50.21	ug/L	99
117) pentachloroethane	15.045	167	116446	52.15	ug/L	99
118) 1,2,4-trimethylbenzene	15.024	105	576720	49.66	ug/L	99
119) sec-butylbenzene	15.212	105	795971	50.93	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	359618	47.68	ug/L	98
121) p-isopropyltoluene	15.353	119	690366	50.78	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	350809	47.75	ug/L	99
123) benzyl chloride	15.609	91	290436	44.69	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	348217	47.57	ug/L	99
126) n-butylbenzene	15.813	92	372680	51.76	ug/L	98
128) 1,2-dibromo-3-chlorop...	16.771	75	29736	45.62	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69267.D

Acq On : 14 Feb 2017 1:23 pm

Operator : Hueanht

Sample : jc37024-8ms

Misc : MS12540,V4B2850,5,,,,1

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 15 10:33:35 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

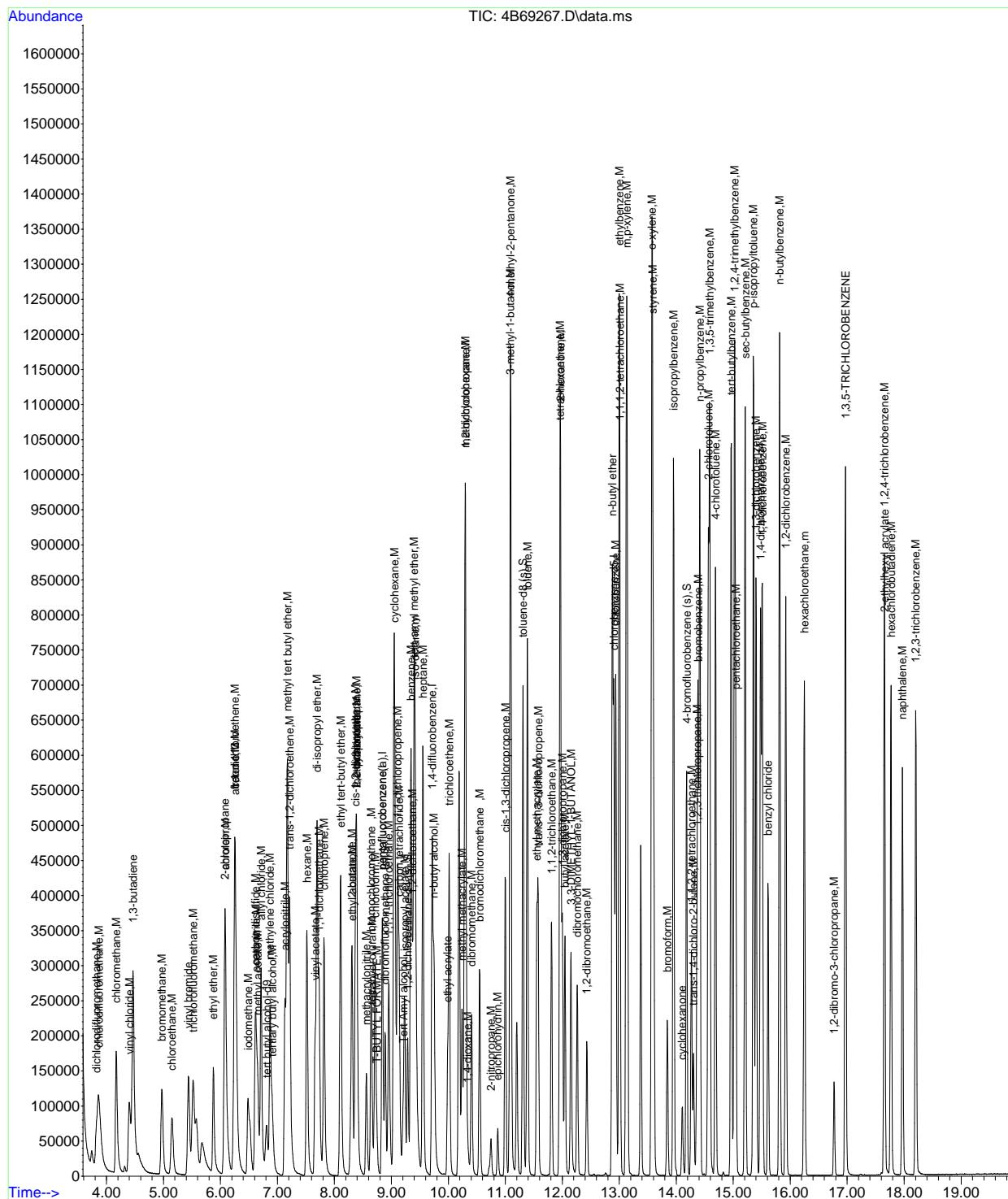
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
129) 1,3,5-TRICHLOROBENZENE	16.969	180	343715	53.14	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	280347	48.70	ug/L	99
131) hexachlorobutadiene	17.770	225	165718	49.06	ug/L	100
132) naphthalene	17.968	128	449481	43.17	ug/L	99
133) 1,2,3-trichlorobenzene	18.204	180	233500	46.08	ug/L	98
134) hexachloroethane	16.247	201	138661	54.52	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	16296	10.70	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51
Data File : 4B69267.D
Acq On : 14 Feb 2017 1:23 pm
Operator : Hueanh
Sample : jc37024-8ms
Misc : MS12540,V4B2850,5,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 15 10:33:35 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69268.D
 Acq On : 14 Feb 2017 1:52 pm
 Operator : Hueanht
 Sample : jc37024-8msd
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 15 10:33:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	121924	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	275465	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	380325	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	354578	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	214618	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	275465	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	118283	50.85	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	101.70%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	123772	49.12	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	98.24%		
80) toluene-d8 (s)	11.310	98	438600	49.93	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	99.86%		
105) 4-bromofluorobenzene (s)	14.181	95	177621	50.54	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	101.08%		
Target Compounds						
2) tertiary butyl alcohol	6.906	59	77170	242.63	ug/L	95
3) 1,4-dioxane	10.342	88	31937	1157.78	ug/L	96
7) chlorodifluoromethane	3.873	51	181212	41.60	ug/L	100
8) dichlorodifluoromethane	3.826	85	209464	55.42	ug/L	99
10) chloromethane	4.171	52	87514	46.27	ug/L	96
11) vinyl chloride	4.401	62	238883	47.42	ug/L	99
12) bromomethane	4.971	94	119811	51.39	ug/L	96
13) chloroethane	5.144	64	115543	51.40	ug/L	99
14) vinyl bromide	5.442	106	158827	50.52	ug/L	100
15) trichlorofluoromethane	5.520	101	221614	51.26	ug/L	99
16) 1,3-butadiene	4.464	54	209021	50.51	ug/L	99
19) ethyl ether	5.881	74	65219	41.92	ug/L	99
20) 2-chloropropane	6.080	39	56805	53.90	ug/L	94
21) acrolein	6.085	56	257414	412.55	ug/L	97
22) 1,1-dichloroethene	6.258	96	111199	43.61	ug/L	98
23) acetone	6.258	58	45725	151.27	ug/L	88
24) allyl chloride	6.713	76	81788	35.92	ug/L	84
25) acetonitrile	6.624	40	79412	449.51	ug/L	99
26) iodomethane	6.488	142	231509	44.12	ug/L	100
27) carbon disulfide	6.613	76	334485	41.38	ug/L	99
28) methylene chloride	6.870	84	126287	44.03	ug/L	98
29) methyl acetate	6.655	74	17377	40.44	ug/L	89
31) methyl tert butyl ether	7.173	73	636615	81.33	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	115328	44.90	ug/L	96
33) di-isopropyl ether	7.696	45	483215	44.44	ug/L	98
34) 2-butanone	8.308	72	61401	186.56	ug/L	94
35) 1,1-dichloroethane	7.733	63	243239	46.91	ug/L	99
36) chloroprene	7.816	53	212529	50.64	ug/L	97
37) acrylonitrile	7.131	53	224683	203.17	ug/L	100
38) vinyl acetate	7.659	86	21686	42.35	ug/L	95
39) ethyl tert-butyl ether	8.109	59	409087	44.36	ug/L	99
40) ethyl acetate	8.308	45	19172	40.40	ug/L	78
41) 2,2-dichloropropane	8.397	77	130915	50.90	ug/L	99
42) cis-1,2-dichloroethene	8.371	96	135687	47.28	ug/L	99
43) methylacrylate	8.392	85	16238	39.40	ug/L	# 89
44) propionitrile	8.386	54	166250	407.92	ug/L	92
45) bromochloromethane	8.643	128	66090	46.06	ug/L	96
46) tetrahydrofuran	8.658	42	41399	42.63	ug/L	97
47) chloroform	8.716	85	144336	46.10	ug/L	99
48) T-BUTYL FORMATE	8.742	59	14762	6.53	ug/L	88
51) freon 113	6.258	151	139338	63.70	ug/L	98
52) methacrylonitrile	8.564	41	78773	38.77	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	192041	52.87	ug/L	98
54) cyclohexane	9.056	84	198428	53.30	ug/L	95

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69268.D
 Acq On : 14 Feb 2017 1:52 pm
 Operator : Hueanht
 Sample : jc37024-8msd
 Misc : MS12540,V4B2850,5,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 15 10:33:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.865	57	48689	166.56	ug/L	95
58) n-butyl alcohol	9.746	56	202994	2272.06	ug/L	99
59) carbon tetrachloride	9.134	117	167415	52.41	ug/L	97
60) 1,1-dichloropropene	9.108	75	176839	47.40	ug/L	99
61) hexane	7.518	57	175519	40.19	ug/L	96
62) Tert Amyl alcohol	9.207	73	34393	237.99	ug/L	92
63) benzene	9.343	78	492558	45.24	ug/L	98
64) iso-octane	9.417	57	598366	51.54	ug/L	100
65) tert-amyl methyl ether	9.396	87	79119	46.64	ug/L	98
66) heptane	9.553	57	138895	50.58	ug/L	99
67) isopropyl acetate	9.234	61	50805	45.09	ug/L	96
68) 1,2-dichloroethane	9.370	62	156107	44.85	ug/L	99
69) trichloroethene	10.013	95	134183	49.15	ug/L	98
71) ethyl acrylate	9.987	55	154747	43.53	ug/L	98
72) 2-nitropropane	10.745	41	31195	28.41	ug/L	# 34
74) methyl methacrylate	10.243	100	30828	40.46	ug/L	# 79
75) 1,2-dichloropropane	10.301	63	139797	47.19	ug/L	99
76) dibromomethane	10.405	93	76894	43.85	ug/L	99
77) methylcyclohexane	10.301	83	225927	49.50	ug/L	99
78) bromodichloromethane	10.546	83	175184	49.29	ug/L	98
79) cis-1,3-dichloropropene	11.001	75	228477	48.10	ug/L	97
81) 4-methyl-2-pentanone	11.090	58	245720	203.46	ug/L	93
82) toluene	11.389	92	312724	45.31	ug/L	99
83) 3-methyl-1-butanol	11.080	55	144701	1155.67	ug/L	93
84) trans-1,3-dichloropropene	11.577	75	189131	46.08	ug/L	100
85) ethyl methacrylate	11.551	69	161370	42.83	ug/L	97
86) 1,1,2-trichloroethane	11.807	83	97074	44.01	ug/L	98
87) 2-hexanone	11.969	58	239102	192.50	ug/L	97
89) tetrachloroethene	11.959	164	138480	47.49	ug/L	98
90) 1,3-dichloropropane	12.000	76	179849	40.19	ug/L	99
91) butyl acetate	12.048	56	93843	45.40	ug/L	95
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	163304	638.50	ug/L	98
93) dibromochloromethane	12.262	129	137975	49.35	ug/L	99
94) 1,2-dibromoethane	12.429	107	122928	41.84	ug/L	99
95) n-butyl ether	12.879	57	640703	48.00	ug/L	100
96) chlorobenzene	12.937	112	363834	45.99	ug/L	99
97) 1,1,2-tetrachloroethane	13.010	131	131147	46.57	ug/L	97
98) ethylbenzene	12.999	91	604885	45.86	ug/L	99
99) m,p-xylene	13.130	106	472702	91.41	ug/L	94
100) o-xylene	13.570	106	244492	47.23	ug/L	100
101) styrene	13.585	104	396283	43.78	ug/L	96
102) bromoform	13.841	173	101251	42.57	ug/L	95
104) isopropylbenzene	13.951	105	655366	46.58	ug/L	100
106) cyclohexanone	14.103	55	48325	69.76	ug/L	99
107) bromobenzene	14.385	156	181457	44.50	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.265	83	159909	41.44	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	32310	39.02	ug/L	99
110) 1,2,3-trichloropropene	14.365	110	40278	41.70	ug/L	98
111) n-propylbenzene	14.412	91	773344	47.74	ug/L	99
113) 2-chlorotoluene	14.563	126	165690	46.93	ug/L	97
114) 4-chlorotoluene	14.689	91	470427	46.78	ug/L	99
115) 1,3,5-trimethylbenzene	14.589	105	533242	46.21	ug/L	100
116) tert-butylbenzene	14.966	119	511309	48.03	ug/L	98
117) pentachloroethane	15.044	167	114172	50.59	ug/L	98
118) 1,2,4-trimethylbenzene	15.024	105	559998	47.70	ug/L	100
119) sec-butylbenzene	15.212	105	776566	49.16	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	350796	46.02	ug/L	100
121) p-isopropyltoluene	15.358	119	670176	48.77	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	345761	46.57	ug/L	99
123) benzyl chloride	15.615	91	284843	43.36	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	341402	46.15	ug/L	99
126) n-butylbenzene	15.813	92	359802	49.45	ug/L	97
128) 1,2-dibromo-3-chlorop...	16.770	75	29982	45.51	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69268.D

Acq On : 14 Feb 2017 1:52 pm

Operator : Hueanht

Sample : jc37024-8msd

Misc : MS12540,V4B2850,5,,,1

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 15 10:33:54 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

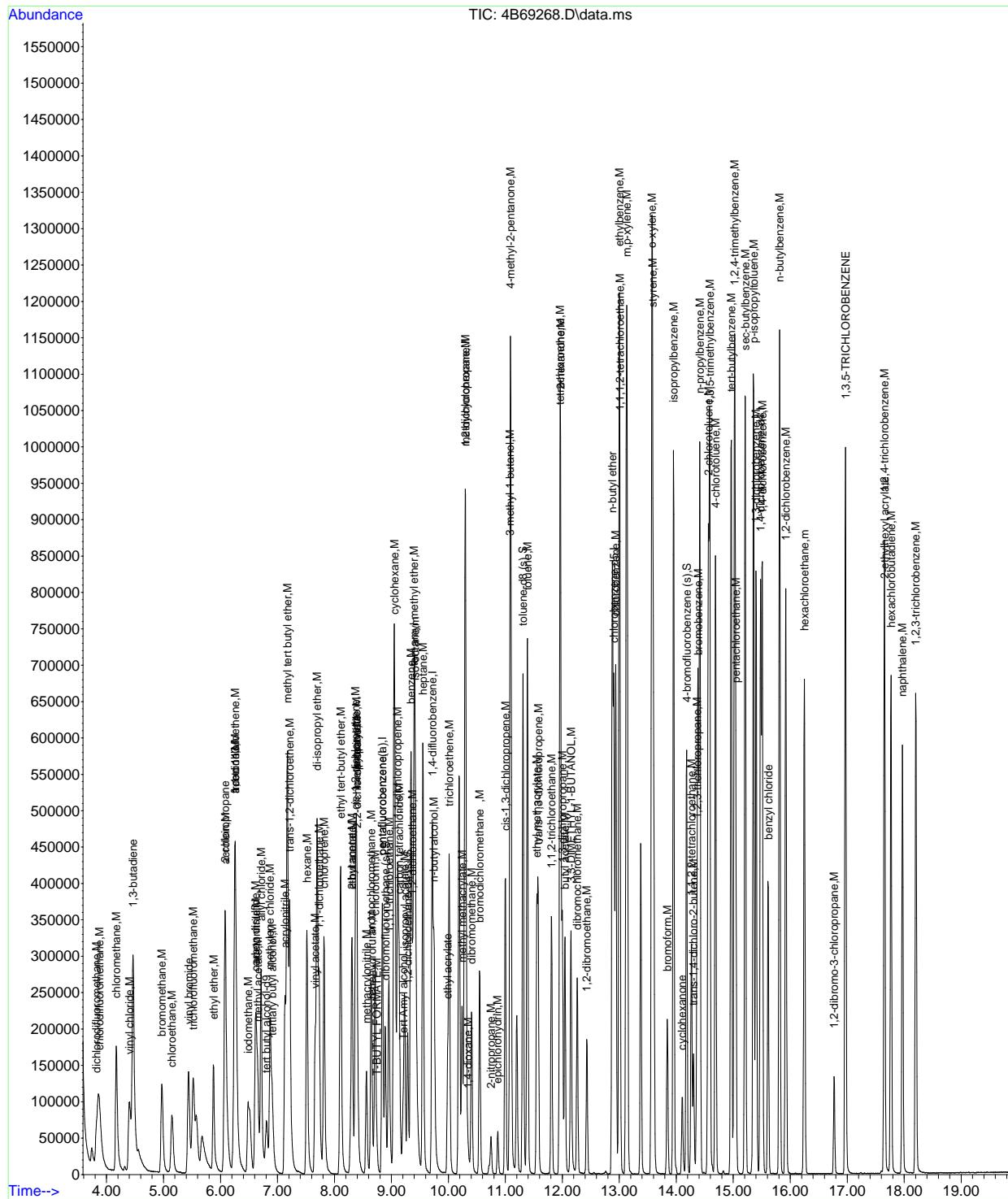
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
129) 1,3,5-TRICHLOROBENZENE	16.969	180	338535	51.79	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	277391	47.67	ug/L	99
131) hexachlorobutadiene	17.769	225	161807	47.40	ug/L	99
132) naphthalene	17.968	128	458451	43.57	ug/L	100
133) 1,2,3-trichlorobenzene	18.203	180	234868	45.86	ug/L	98
134) hexachloroethane	16.247	201	134936	52.49	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	17807	11.46	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69268.D
 Acq On : 14 Feb 2017 1:52 pm
 Operator : Hueanh
 Sample : jc37024-8msd
 Misc : MS12540,V4B2850,5,,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 15 10:33:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69322.D

Acq On : 15 Feb 2017 4:49 pm

Operator : Hueanh

Sample : jc37024-3ms

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 16 15:38:26 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	150539	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	297447	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	409812	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	377405	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	229243	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	297447	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	128668	51.22	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 102.44%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	134188	49.32	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 98.64%		
80) toluene-d8 (s)	11.310	98	467262	49.37	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 98.74%		
105) 4-bromofluorobenzene (s)	14.181	95	188919	50.33	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 100.66%		
Target Compounds						
				Qvalue		
2) tertiary butyl alcohol	6.906	59	99950	254.51	ug/L	96
3) 1,4-dioxane	10.342	88	37217	1092.73	ug/L	93
7) chlorodifluoromethane	3.862	51	151338	32.17	ug/L	98
8) dichlorodifluoromethane	3.831	85	174355	42.72	ug/L	98
10) chloromethane	4.171	52	78748	38.56	ug/L	97
11) vinyl chloride	4.401	62	222996	40.99	ug/L	99
12) bromomethane	4.971	94	125210	49.74	ug/L	97
13) chloroethane	5.149	64	117706	48.49	ug/L	98
14) vinyl bromide	5.442	106	156537	46.11	ug/L	99
15) trichlorofluoromethane	5.525	101	214730	45.99	ug/L	99
16) 1,3-butadiene	4.469	54	242888	54.35	ug/L	100
19) ethyl ether	5.876	74	71450	42.53	ug/L	96
20) 2-chloropropane	6.075	39	57538	50.56	ug/L	86
21) acrolein	6.085	56	293030	434.93	ug/L	96
22) 1,1-dichloroethene	6.252	96	124278	45.13	ug/L	100
23) acetone	6.258	58	63145	193.46	ug/L	99
24) allyl chloride	6.713	76	81040	32.86	ug/L	86
25) acetonitrile	6.624	40	102373	536.66	ug/L	96
26) iodomethane	6.483	142	226923	40.05	ug/L	96
27) carbon disulfide	6.613	76	306424	35.11	ug/L	100
28) methylene chloride	6.870	84	136462	44.06	ug/L	98
29) methyl acetate	6.650	74	22050	47.52	ug/L	91
31) methyl tert butyl ether	7.173	73	743074	87.92	ug/L	100
32) trans-1,2-dichloroethene	7.215	96	122023	43.99	ug/L	99
33) di-isopropyl ether	7.696	45	530094	45.14	ug/L	99
34) 2-butanone	8.308	72	84533	237.87	ug/L	93
35) 1,1-dichloroethane	7.733	63	266300	47.56	ug/L	99
36) chloroprene	7.816	53	221185	48.81	ug/L	98
37) acrylonitrile	7.131	53	281726	235.93	ug/L	99
38) vinyl acetate	7.659	86	26934	48.71	ug/L	90
39) ethyl tert-butyl ether	8.109	59	466308	46.82	ug/L	98
40) ethyl acetate	8.308	45	25146	49.07	ug/L	96
41) 2,2-dichloropropane	8.397	77	135085	48.64	ug/L	96
42) cis-1,2-dichloroethene	8.371	96	182630	58.93	ug/L	98
43) methylacrylate	8.392	85	21094	47.40	ug/L	94
44) propionitrile	8.386	54	216885	492.83	ug/L	89
45) bromochloromethane	8.643	128	76345	49.27	ug/L	99
46) tetrahydrofuran	8.658	42	49539	47.24	ug/L	98
47) chloroform	8.716	85	160121	47.37	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69322.D
 Acq On : 15 Feb 2017 4:49 pm
 Operator : Hueanh
 Sample : jc37024-3ms
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 16 15:38:26 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.742	59	35059	14.36	ug/L	91
51) freon 113	6.252	151	129690	54.91	ug/L	98
52) methacrylonitrile	8.559	41	97602	44.49	ug/L	99
53) 1,1,1-trichloroethane	8.956	97	786826	200.61	ug/L	98
54) cyclohexane	9.056	84	184967	46.01	ug/L	89
57) epichlorohydrin	10.865	57	72464	230.06	ug/L	97
58) n-butyl alcohol	9.746	56	264467	2747.13	ug/L	99
59) carbon tetrachloride	9.134	117	171583	49.85	ug/L	97
60) 1,1-dichloropropene	9.108	75	184892	45.99	ug/L	99
61) hexane	7.518	57	187756	39.90	ug/L	99
62) Tert Amyl alcohol	9.207	73	46667	299.69	ug/L	90
63) benzene	9.343	78	536905	45.76	ug/L	99
64) iso-octane	9.417	57	583997	46.68	ug/L	99
65) tert-amyl methyl ether	9.401	87	92529	50.62	ug/L	97
66) heptane	9.553	57	139061	46.99	ug/L	98
67) isopropyl acetate	9.234	61	63243	52.09	ug/L	96
68) 1,2-dichloroethane	9.370	62	179380	47.82	ug/L	99
69) trichloroethene	10.013	95	152251	51.75	ug/L	99
71) ethyl acrylate	9.987	55	193969	50.64	ug/L	90
72) 2-nitropropane	10.745	41	40949	34.61	ug/L #	33
74) methyl methacrylate	10.238	100	39584	48.22	ug/L #	81
75) 1,2-dichloropropane	10.301	63	156981	49.18	ug/L	99
76) dibromomethane	10.405	93	91757	48.56	ug/L	96
77) methylcyclohexane	10.301	83	227415	46.24	ug/L	99
78) bromodichloromethane	10.552	83	202115	52.78	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	262005	51.19	ug/L	98
81) 4-methyl-2-pentanone	11.090	58	322358	247.71	ug/L	95
82) toluene	11.389	92	348817	46.91	ug/L	99
83) 3-methyl-1-butanol	11.080	55	191537	1419.66	ug/L	92
84) trans-1,3-dichloropropene	11.577	75	220201	49.79	ug/L	100
85) ethyl methacrylate	11.551	69	200961	49.50	ug/L	99
86) 1,1,2-trichloroethane	11.812	83	118886	50.03	ug/L	98
87) 2-hexanone	11.969	58	317503	237.23	ug/L	99
89) tetrachloroethene	11.959	164	149999	48.32	ug/L	97
90) 1,3-dichloropropane	12.000	76	214923	45.13	ug/L	99
91) butyl acetate	12.048	56	118895	54.05	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	219738	807.19	ug/L	98
93) dibromochloromethane	12.262	129	164580	55.31	ug/L	100
94) 1,2-dibromoethane	12.429	107	151309	48.39	ug/L	99
95) n-butyl ether	12.879	57	709869	49.96	ug/L	100
96) chlorobenzene	12.942	112	407300	48.37	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.010	131	150158	50.10	ug/L	98
98) ethylbenzene	12.999	91	674018	48.01	ug/L	99
99) m,p-xylene	13.130	106	530613	96.40	ug/L	97
100) o-xylene	13.570	106	272731	49.50	ug/L	99
101) styrene	13.585	104	452630	46.98	ug/L	95
102) bromoform	13.841	173	124706	49.14	ug/L	98
104) isopropylbenzene	13.951	105	721030	47.98	ug/L	99
106) cyclohexanone	14.108	55	61842	83.58	ug/L	99
107) bromobenzene	14.385	156	209320	48.06	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.265	83	203835	49.45	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	25009	28.73	ug/L	93
110) 1,2,3-trichloropropane	14.365	110	51703	50.11	ug/L	99
111) n-propylbenzene	14.412	91	855245	49.43	ug/L	99
113) 2-chlorotoluene	14.563	126	187207	49.64	ug/L	97
114) 4-chlorotoluene	14.689	91	529052	49.25	ug/L	100
115) 1,3,5-trimethylbenzene	14.589	105	587546	47.67	ug/L	100
116) tert-butylbenzene	14.966	119	563601	49.56	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69322.D

Acq On : 15 Feb 2017 4:49 pm

Operator : Hueanh

Sample : jc37024-3ms

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 16 15:38:26 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

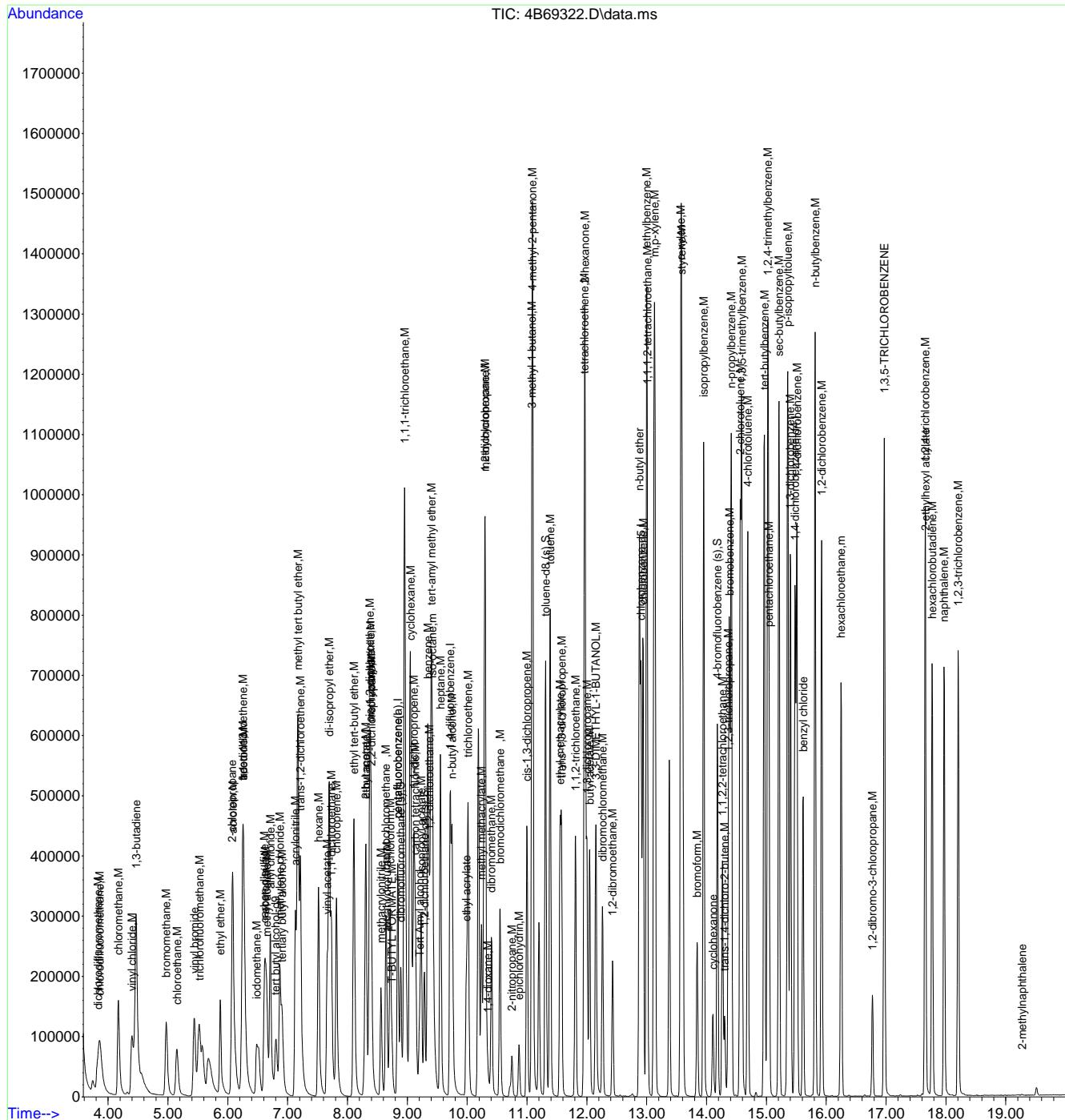
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117) pentachloroethane	15.044	167	130075	53.96	ug/L	97
118) 1,2,4-trimethylbenzene	15.024	105	624932	49.84	ug/L	100
119) sec-butylbenzene	15.212	105	851674	50.48	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	395216	48.54	ug/L	98
121) p-isopropyltoluene	15.358	119	741489	50.52	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	394459	49.73	ug/L	99
123) benzyl chloride	15.615	91	354938	50.58	ug/L	100
124) 1,2-dichlorobenzene	15.923	146	395474	50.05	ug/L	99
126) n-butylbenzene	15.813	92	390556	50.25	ug/L	98
128) 1,2-dibromo-3-chloropr...	16.770	75	38086	54.12	ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.969	180	369451	52.91	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	309948	49.87	ug/L	98
131) hexachlorobutadiene	17.769	225	170815	46.84	ug/L	98
132) naphthalene	17.968	128	564944	50.26	ug/L	99
133) 1,2,3-trichlorobenzene	18.203	180	268312	49.04	ug/L	99
134) hexachloroethane	16.247	201	139607	50.84	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	18398	11.13	ug/L	96
136) 2-methylnaphthalene	19.270	142	833	0.31	ug/L	92

(#= qualifier out of range (m)= manual integration (+)= signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
Data File : 4B69322.D
Acq On : 15 Feb 2017 4:49 pm
Operator : Hueanh
Sample : jc37024-3ms
Misc : MS12540,V4B2853,5,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 16 15:38:26 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



**Manual Integrations
APPROVED
(compounds with "m" flag)**
**Kanya Veerawat
02/17/17 16:05**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69324.D
 Acq On : 15 Feb 2017 5:47 pm
 Operator : Hueanh
 Sample : jc37024-4dup
 Misc : MS12540,V4B2853,5,,,1
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 17 08:39:53 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	131349	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	321802	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	436440	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	407036	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	225920	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	321802	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	137032	50.42	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	100.84%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147731	50.19	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	100.38%	
80) toluene-d8 (s)	11.310	98	504133	50.01	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.02%	
105) 4-bromofluorobenzene (s)	14.182	95	191312	51.71	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.42%	
<hr/>						
Target Compounds						
				Qvalue		
22) 1,1-dichloroethene	6.357	96	8673m	2.91	ug/L	
35) 1,1-dichloroethane	7.733	63	17625	2.91	ug/L	97
42) cis-1,2-dichloroethene	8.371	96	23926	7.14	ug/L	97
53) 1,1,1-trichloroethane	8.956	97	276000	65.05	ug/L	99
69) trichloroethene	10.013	95	4691	1.50	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69324.D

Acq On : 15 Feb 2017 5:47 pm

Operator : Hueanh

Sample : jc37024-4dup

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 20 Sample Multiplier: 1

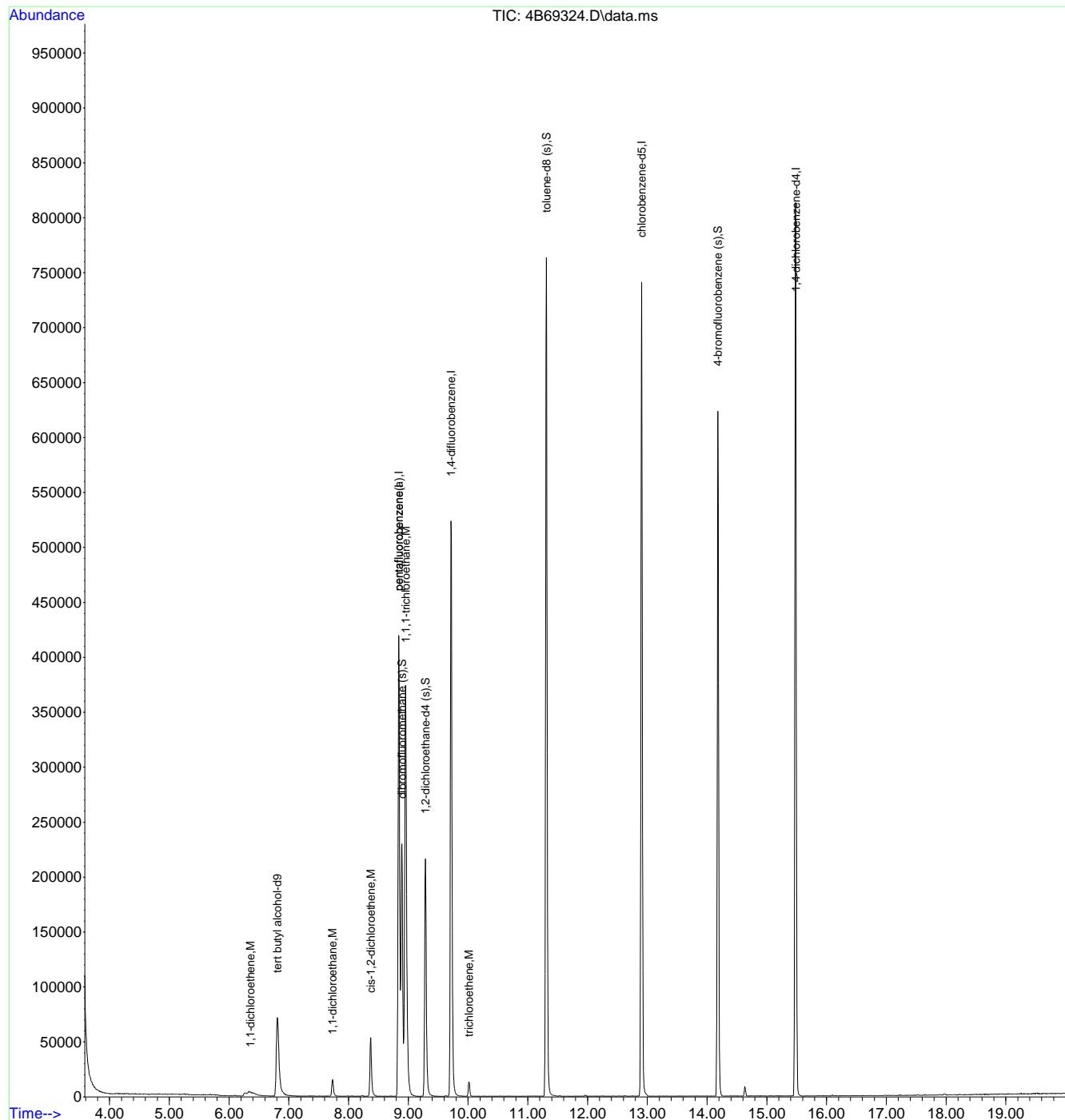
Quant Time: Feb 17 08:39:53 2017

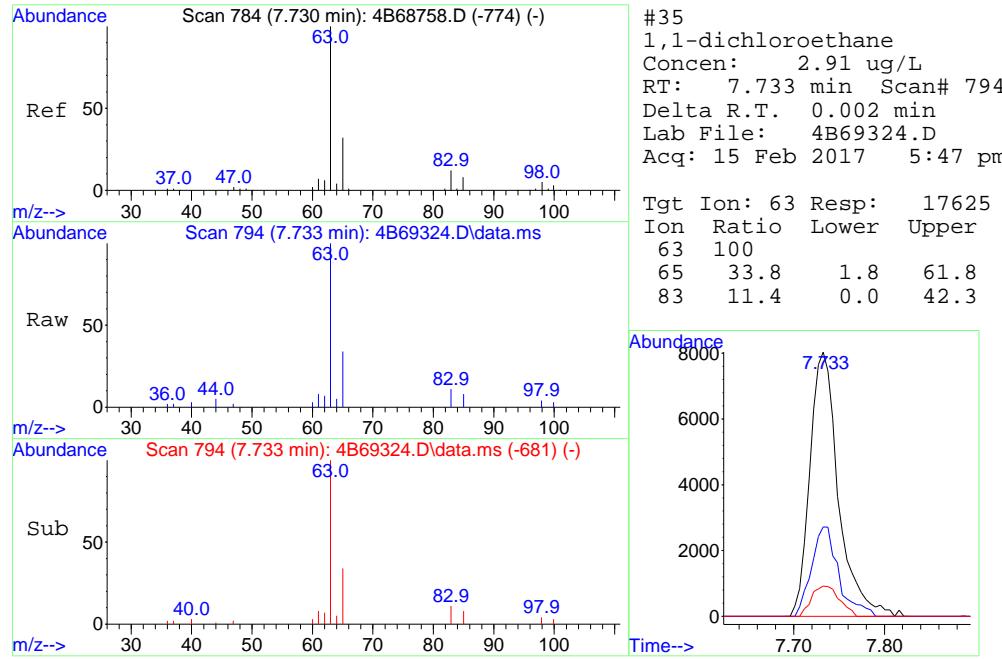
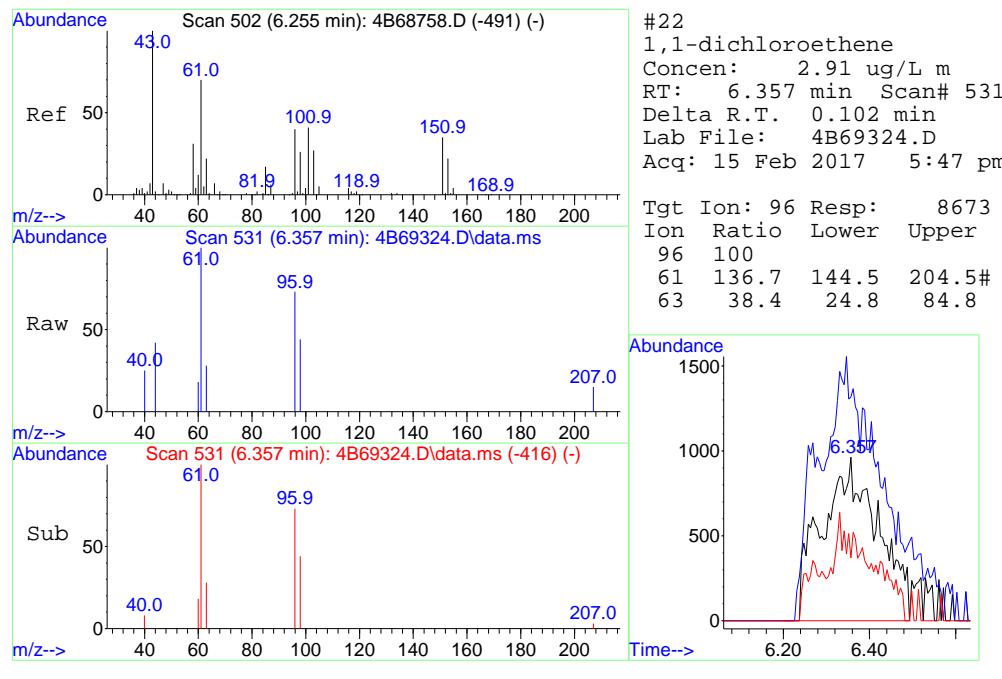
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

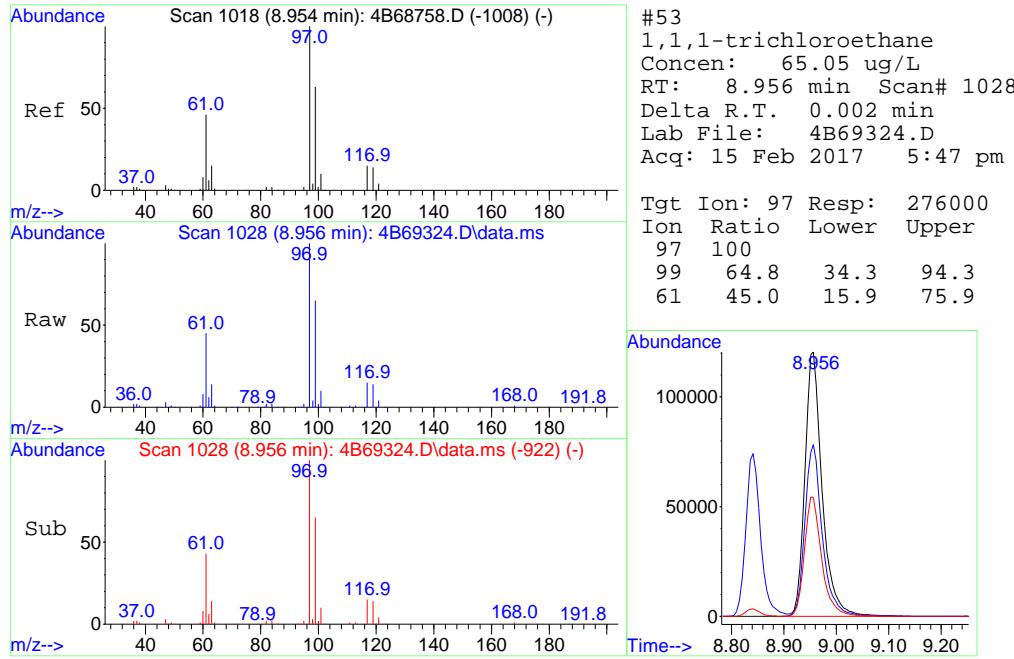
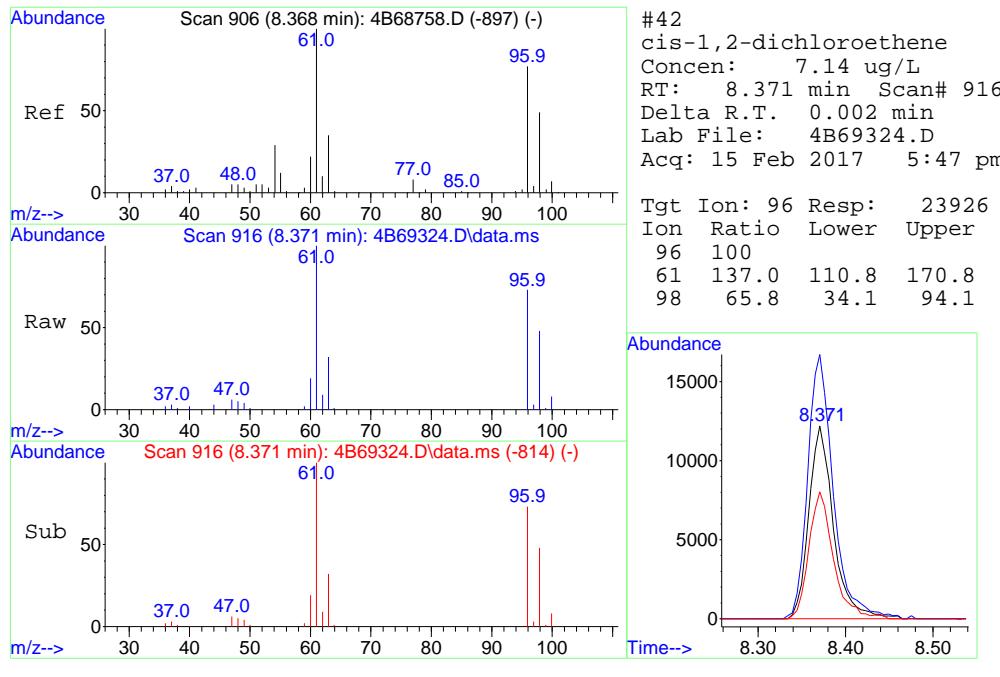
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

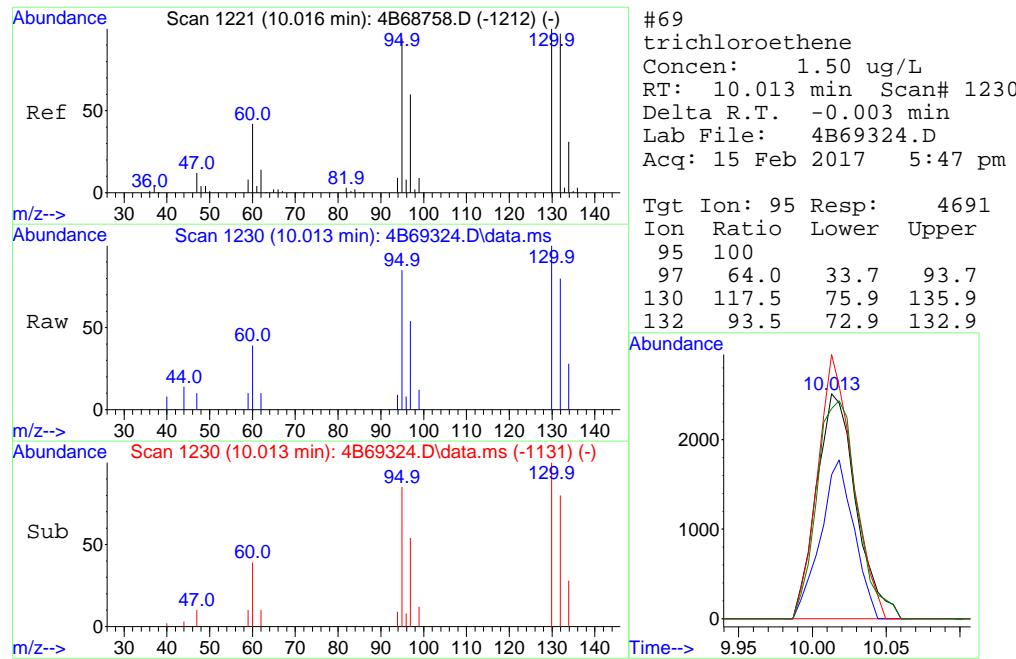
QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration









Manual Integration Approval Summary

Page 1 of 1

Sample Number: JC37024-4DUP
Lab FileID: 4B69324.D
Injection Time: 02/15/17 17:47

Method: SW846 8260C
Analyst approved: 02/17/17 08:41 Mei Chen
Supervisor approved: 02/17/17 16:05 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,1-Dichloroethene	75-35-4		6.36	Split peak

7.5.1.1
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69324.D

Acq On : 15 Feb 2017 5:47 pm

Operator : Hueanh

Sample : jc37024-4dup

Misc : MS12540,V4B2853,5,,,1

ALS Vial : 20 Sample Multiplier: 1

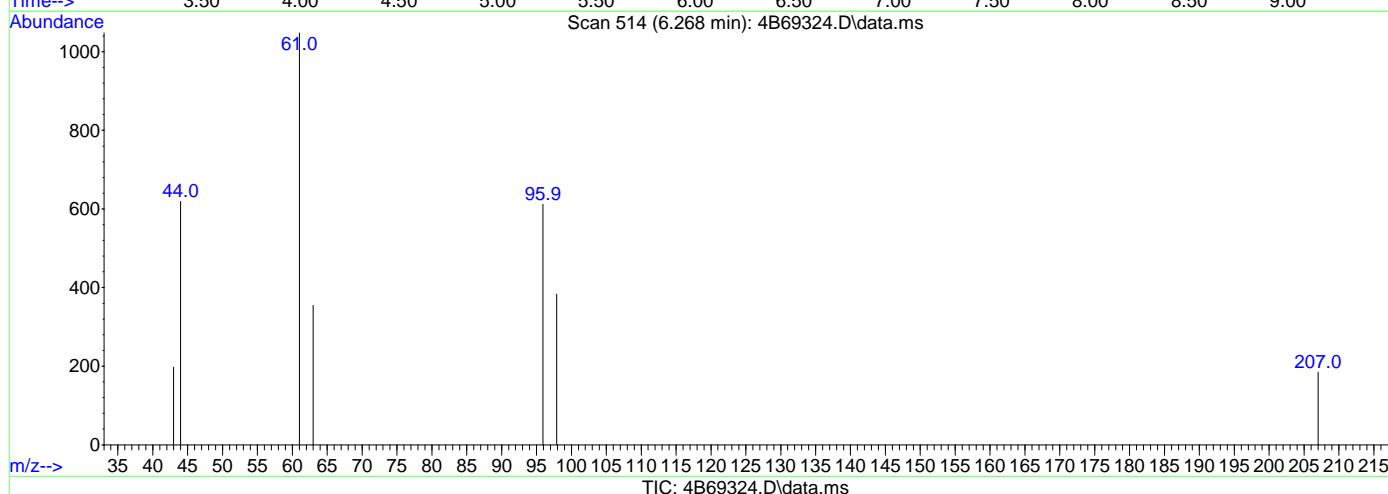
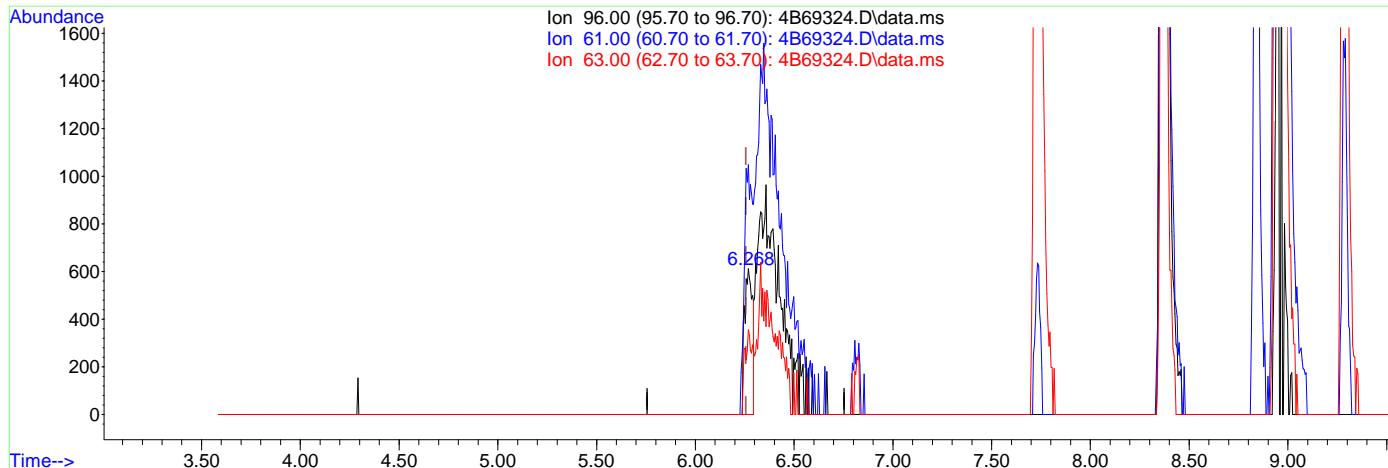
Quant Time: Feb 16 09:01:31 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration



(22) 1,1-dichloroethene (M)

6.268min (+0.013) 0.58ug/L

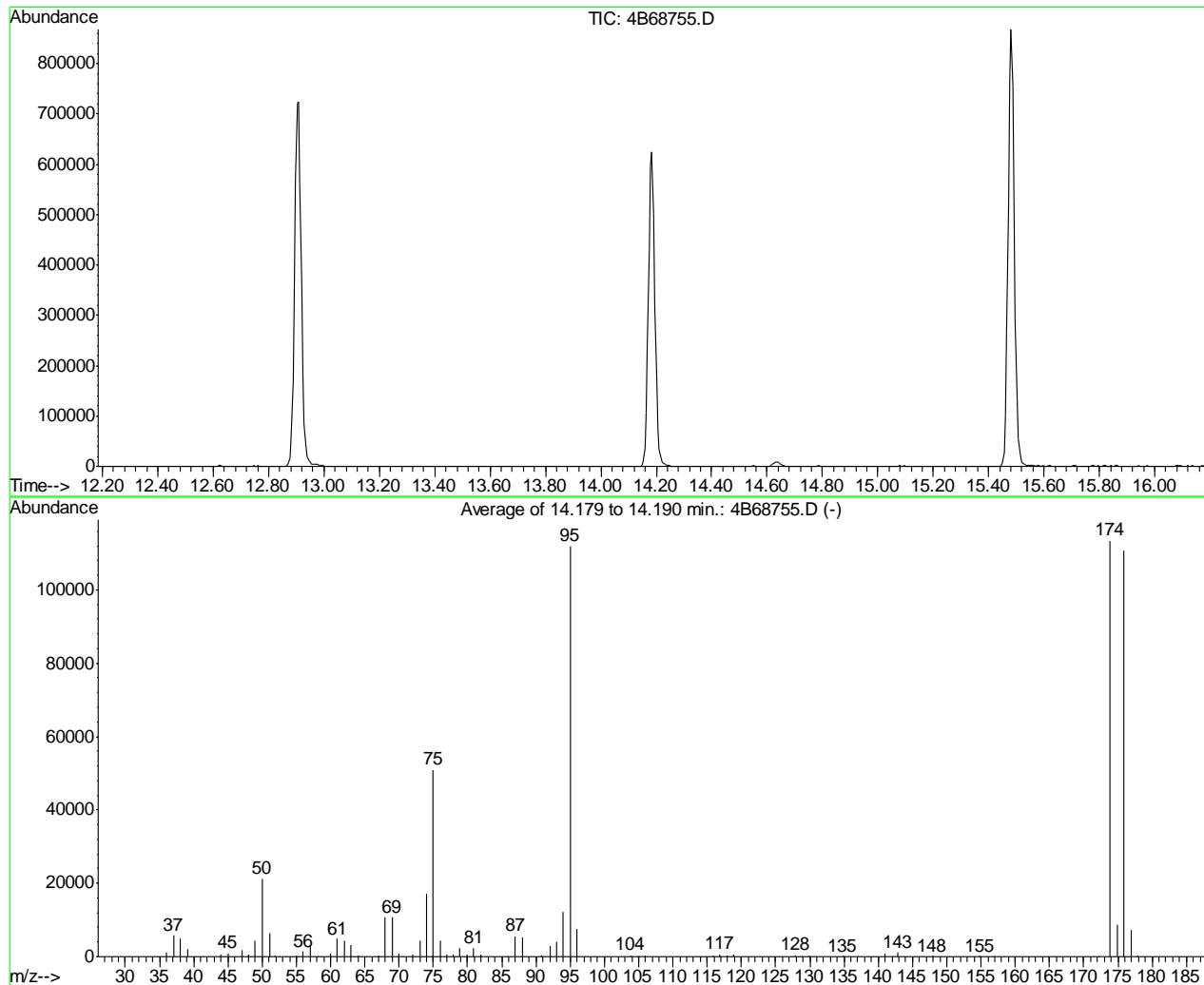
response 1735

Ion	Exp%	Act%
96.00	100	100
61.00	174.50	142.16#
63.00	54.80	58.01
0.00	0.00	0.00

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\4B68755.D Vial: 2
 Acq On : 27 Jan 2017 11:04 am Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS11826,V4B2825,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2017, 2018, 2019; Background Corrected with Scan 2008

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.0	21258	PASS
75	95	30	60	45.5	50882	PASS
95	95	100	100	100.0	111944	PASS
96	95	5	9	6.6	7433	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.4	113464	PASS
175	174	5	9	7.6	8642	PASS
176	174	95	101	97.6	110720	PASS
177	176	5	9	6.5	7242	PASS

Average of 14.179 to 14.190 min.: 4B68755.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1163	51.95	218	68.00	10624	79.90	683
37.05	5708	55.05	250	69.00	10723	80.90	2378
38.00	4980	56.00	1435	70.00	766	81.90	503
39.05	1922	57.00	2865	72.00	657	85.90	122
44.00	481	58.10	61	73.00	4427	87.00	5614
45.00	978	60.00	934	74.00	17055	88.00	5268
47.00	1698	61.00	4935	75.00	50882	90.90	349
48.00	658	62.00	4464	76.00	4302	92.00	2780
49.00	4502	63.00	3200	77.00	687	93.00	4217
50.00	21258	64.00	286	77.85	466	94.00	12180
51.05	6275	67.00	353	78.90	2377	95.00	111944

Average of 14.179 to 14.190 min.: 4B68755.D

bfb

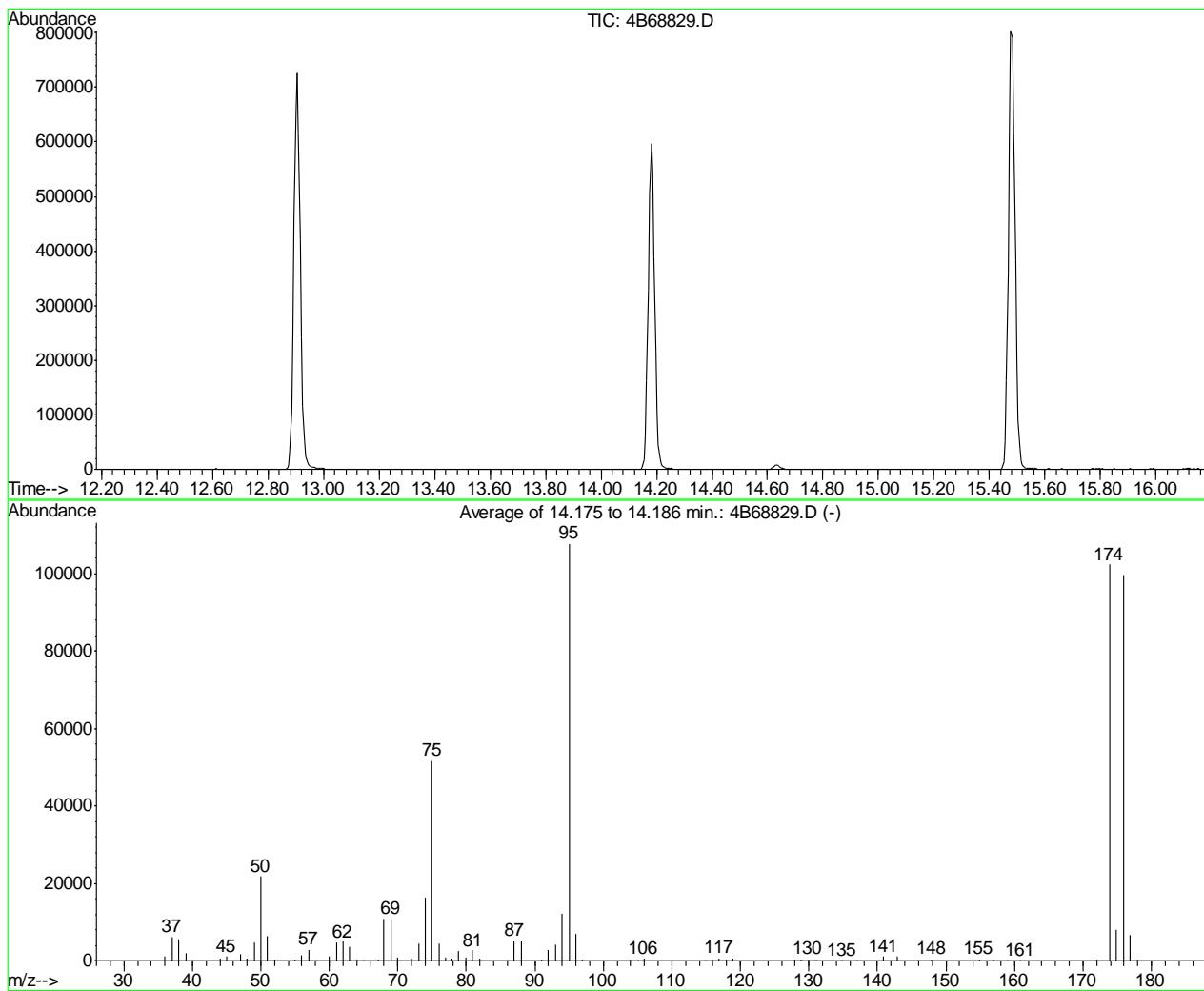
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.00	7433	128.90	140	156.90	68		
97.00	154	129.85	325	172.05	120		
103.90	393	130.80	55	173.90	113464		
104.80	76	134.85	175	174.95	8642		
105.00	67	136.90	76	175.90	110720		
105.90	383	140.90	995	176.90	7242		
115.90	369	142.00	62	177.85	195		
116.90	634	142.90	1042				
117.95	362	145.90	73				
118.90	512	147.95	287				
127.90	394	154.90	290				

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\4B68829.D Vial: 1
 Acq On : 30 Jan 2017 10:20 pm Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12037,V4B2828,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825A.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2131, 2132, 2133; Background Corrected with Scan 2122

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.2	21741	PASS
75	95	30	60	47.9	51608	PASS
95	95	100	100	100.0	107738	PASS
96	95	5	9	6.5	6993	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.0	102328	PASS
175	174	5	9	7.8	7984	PASS
176	174	95	101	97.4	99685	PASS
177	176	5	9	6.7	6688	PASS

Average of 14.175 to 14.186 min.: 4B68829.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1213	51.00	6308	65.00	53	77.95	464
37.00	6120	52.00	264	67.10	204	78.90	2553
38.05	5413	55.05	311	68.00	10694	79.95	740
39.05	2072	56.00	1515	69.00	10866	80.90	2662
39.95	43	57.00	2845	70.00	795	81.90	529
44.00	608	58.10	67	72.00	562	85.95	118
45.00	1019	60.00	979	73.00	4414	87.00	4972
47.05	1783	61.00	4720	74.00	16412	88.00	4893
47.95	664	62.00	4942	75.00	51608	91.00	344
49.00	4652	63.00	3616	76.00	4382	92.00	2870
50.00	21741	64.05	411	77.00	741	93.00	4120

Average of 14.175 to 14.186 min.: 4B68829.D

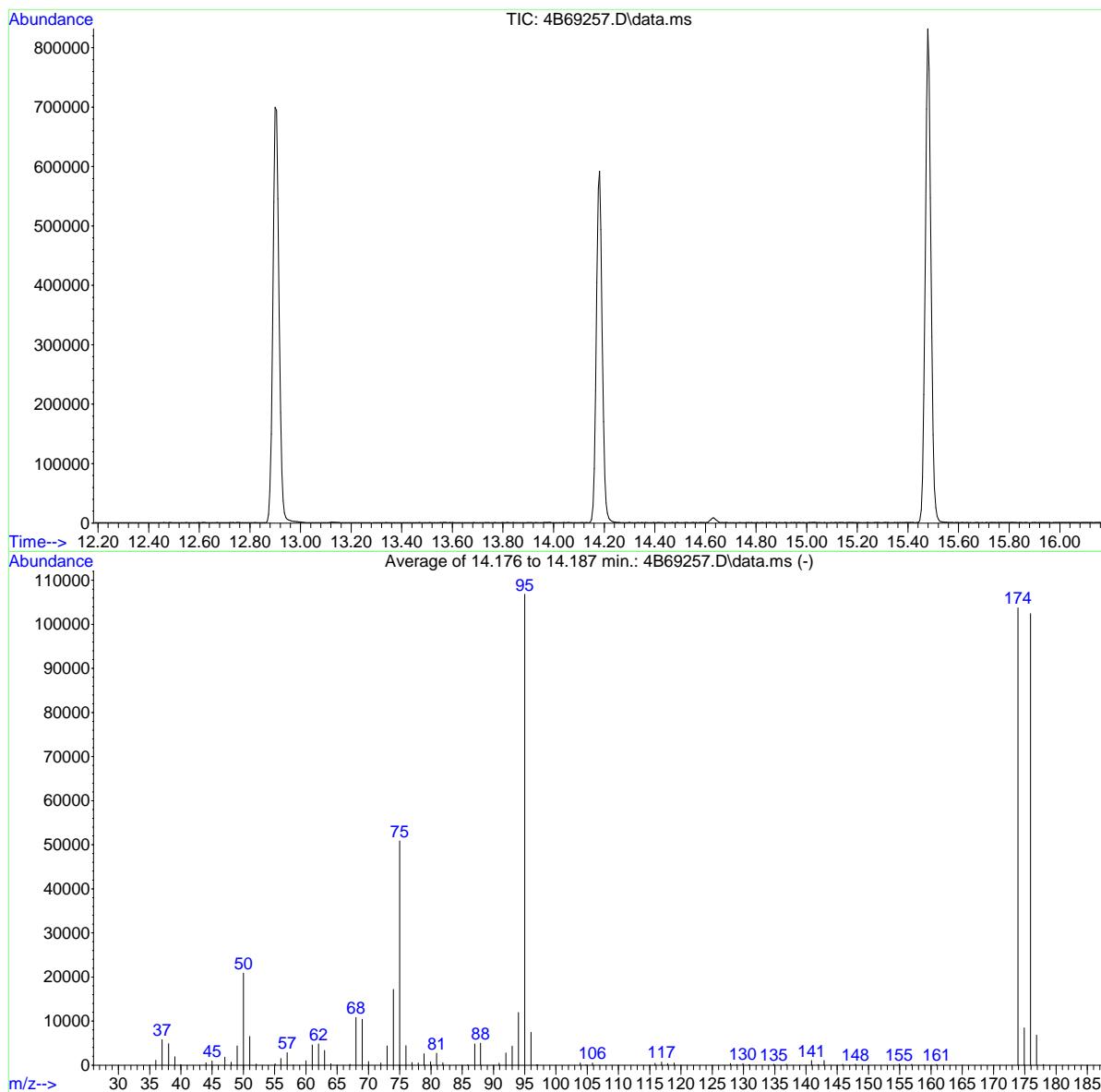
bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.00	12183	118.90	506	145.85	105	176.90	6688
95.00	107738	127.90	344	147.90	296	177.95	196
96.00	6993	128.85	179	154.90	285		
96.95	208	129.90	365	156.90	222		
103.90	402	130.80	52	158.90	55		
104.95	105	131.00	50	160.90	52		
105.90	447	134.85	135	171.60	129		
114.90	62	136.90	137	172.10	152		
115.90	407	140.90	1035	173.90	102328		
116.90	636	141.90	61	174.90	7984		
117.90	353	142.90	1016	175.90	99685		

SW-846 Method 8260
 Data File : C:\msdchem\1\data\V4B2850-51\4B69257.D Vial: 1
 Acq On : 14 Feb 2017 8:15 am Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12448,V4B2850,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	20909	PASS
75	95	30	60	47.6	50851	PASS
95	95	100	100	100.0	106819	PASS
96	95	5	9	6.9	7414	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.1	103765	PASS
175	174	5	9	8.2	8490	PASS
176	174	95	101	98.7	102467	PASS
177	176	5	9	6.6	6810	PASS

Average of 14.176 to 14.187 min.: 4B69257.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1115	51.00	6510	67.05	200	78.90	2620
37.00	5806	52.05	260	68.00	10802	79.95	771
38.05	4879	55.05	289	69.00	10381	80.90	2710
39.05	1928	56.00	1521	70.00	802	81.90	545
39.90	69	57.00	2805	72.00	477	85.90	108
44.00	520	58.00	57	73.00	4354	87.00	4837
45.00	962	60.00	972	74.00	17175	87.95	5000
47.05	1821	61.00	4568	75.00	50851	90.90	406
48.05	683	62.00	4841	76.00	4409	92.00	2743
49.00	4367	63.00	3363	76.95	621	93.00	4294
50.00	20909	64.00	321	77.95	499	94.00	11928

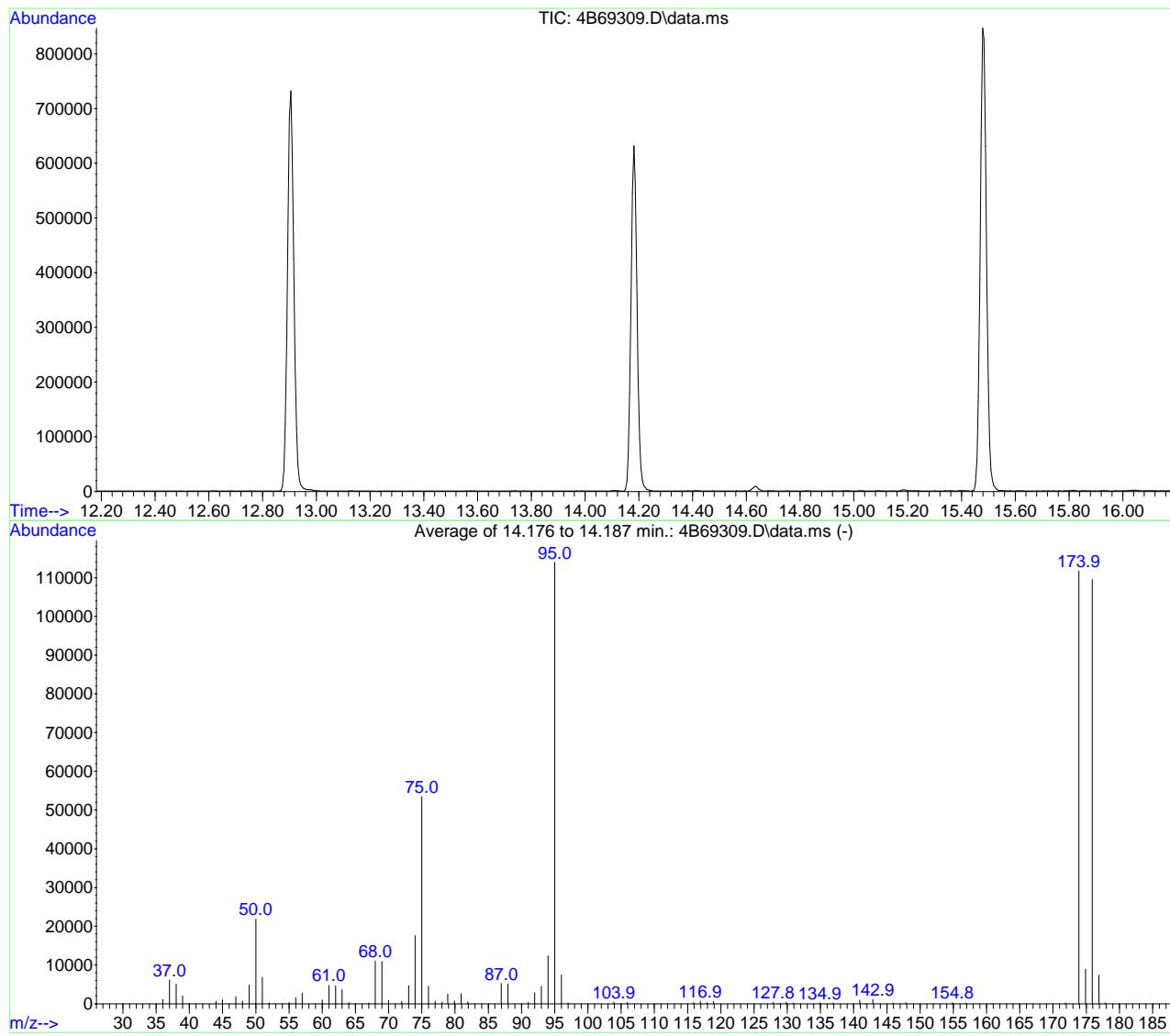
Average of 14.176 to 14.187 min.: 4B69257.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	106819	127.90	365	154.90	270		
96.00	7414	128.90	149	156.90	222		
96.90	92	129.90	401	158.90	55		
97.10	68	130.90	121	160.90	126		
103.90	470	134.85	211	173.90	103765		
104.80	68	136.85	205	174.90	8490		
105.85	480	140.90	1068	175.90	102467		
115.85	406	141.95	159	176.90	6810		
116.90	711	142.90	1030	177.95	164		
117.85	365	145.85	176				
118.90	473	147.90	229				

SW-846 Method 8260
 Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69309.D Vial: 5
 Acq On : 15 Feb 2017 10:32 am Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12524,V4B2853,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.2	21845	PASS
75	95	30	60	46.9	53389	PASS
95	95	100	100	100.0	113928	PASS
96	95	5	9	6.5	7443	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.0	111691	PASS
175	174	5	9	8.0	8908	PASS
176	174	95	101	98.0	109496	PASS
177	176	5	9	6.7	7377	PASS

Average of 14.176 to 14.187 min.: 4B69309.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1095	51.00	6813	68.00	11056	79.90	746
37.00	6145	52.05	241	69.00	10896	80.90	2598
38.00	5061	55.00	328	70.00	811	81.90	531
39.00	2050	56.00	1632	71.95	631	86.95	5191
39.95	87	57.00	2791	73.00	4705	87.95	5055
44.00	610	60.00	990	74.00	17528	91.00	403
45.00	1019	61.00	4782	75.00	53389	92.00	2869
47.00	1858	62.00	4614	76.00	4525	93.00	4456
48.00	708	63.00	3624	77.00	678	94.00	12398
49.00	4802	64.05	322	78.05	443	95.00	113928
50.00	21845	67.00	194	78.90	2517	96.00	7443

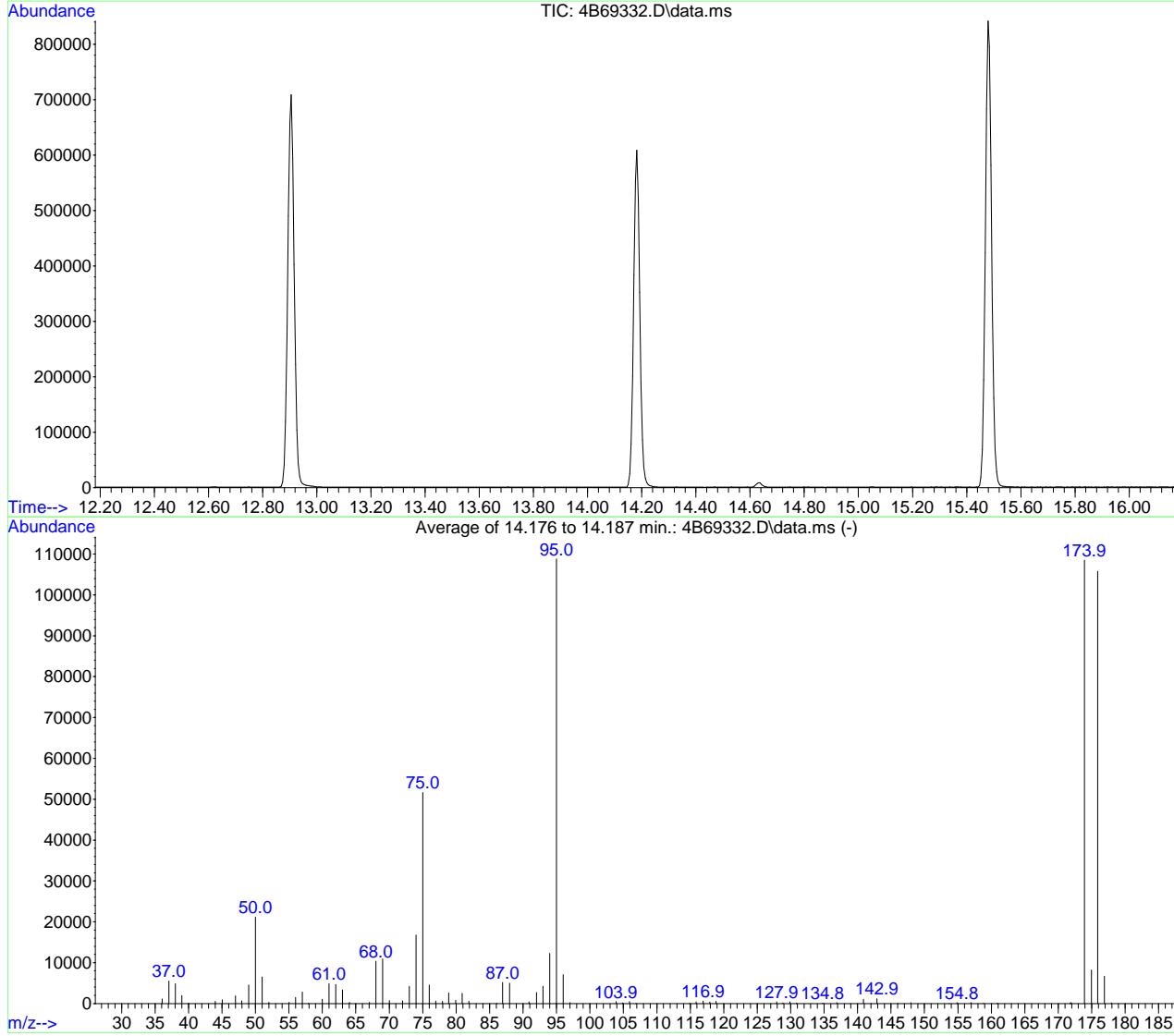
Average of 14.176 to 14.187 min.: 4B69309.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	222	130.90	182	171.85	174		
103.90	466	134.90	209	173.90	111691		
104.90	51	136.90	150	174.90	8908		
105.90	400	140.90	974	175.90	109496		
115.90	314	141.80	58	176.90	7377		
116.90	698	142.90	1104	177.85	218		
117.90	314	145.90	153				
118.90	546	147.85	312				
127.85	408	154.85	309				
128.90	189	156.90	177				
129.85	406	160.80	55				

SW-846 Method 8260
 Data File : C:\msdchem\1\data\4B\v4b2853-2854\4B69332.D Vial: 28
 Acq On : 15 Feb 2017 9:06 pm Operator: Hueanh
 Sample : bfb2 Inst : MS4B
 Misc : MS12524,V4B2853,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p
 Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	21128	PASS
75	95	30	60	47.5	51659	PASS
95	95	100	100	100.0	108789	PASS
96	95	5	9	6.5	7098	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	99.7	108499	PASS
175	174	5	9	7.6	8196	PASS
176	174	95	101	97.5	105749	PASS
177	176	5	9	6.4	6721	PASS

Average of 14.176 to 14.187 min.: 4B69332.D\data.ms

bfb2

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1121	51.00	6478	67.05	279	78.90	2589
37.05	5457	52.00	307	68.00	10366	79.95	765
38.05	4820	55.05	258	69.00	10949	80.90	2523
39.00	1936	56.00	1481	70.00	735	81.90	560
40.00	13	57.00	2818	72.00	681	86.10	59
44.00	517	57.90	55	73.00	4245	86.95	5149
45.05	932	60.00	1046	74.00	16774	88.00	4971
47.00	1845	61.00	4853	75.00	51659	90.90	385
47.95	639	62.00	4683	76.00	4517	92.00	2708
49.00	4510	63.00	3350	76.95	631	93.00	4201
50.00	21128	64.05	307	77.95	519	94.00	12240

Average of 14.176 to 14.187 min.: 4B69332.D\data.ms

bfb2

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	108789	118.85	524	147.95	226	176.90	6721
96.00	7098	127.90	442	153.70	53	177.95	158
97.00	212	128.85	186	154.85	240		
103.90	484	129.90	419	156.95	216		
104.85	195	130.85	109	158.80	63		
105.90	483	134.80	122	160.90	72		
106.90	55	136.90	214	171.80	171		
114.90	52	140.90	1068	171.95	204		
115.85	418	142.00	51	173.90	108499		
116.90	627	142.90	1166	174.95	8196		
117.90	342	146.00	60	175.90	105749		

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanh
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	151706	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	315614	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	430567	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	404913	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	234506	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132621	49.29	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.58%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	145359	50.83	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.66%	
80) toluene-d8 (s)	11.31	98	498921	50.09	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 100.18%	
105) 4-bromofluorobenzene (s)	14.18	95	192724	50.34	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.68%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.92	59	3700	9.66 ug/L 88
7) chlorodifluoromethane	3.86	51	10300	2.02 ug/L 95
8) dichlorodifluoromethane	3.82	85	8651	1.90 ug/L 93
10) chloromethane	4.18	52	4879	2.19 ug/L 90
11) vinyl chloride	4.39	62	11449	1.98 ug/L 96
12) bromomethane	4.99	94	6211	2.34 ug/L 96
13) chloroethane	5.16	64	5113	1.98 ug/L 95
14) vinyl bromide	5.46	106	7316	1.98 ug/L # 93
15) trichlorofluoromethane	5.52	101	9850	1.96 ug/L 97
16) 1,3-butadiene	4.47	54	7191	1.52 ug/L # 89
19) ethyl ether	5.88	74	3510	1.92 ug/L 97
20) 2-chloropropane	6.07	39	2497	2.08 ug/L 83
21) acrolein	6.09	56	14242	20.75 ug/L 100
22) 1,1-dichloroethene	6.26	96	5735	1.93 ug/L 86
23) acetone	6.26	58	3584	10.22 ug/L # 77
24) allyl chloride	6.71	76	6782	2.62 ug/L # 61
25) acetonitrile	6.63	40	3832	20.15 ug/L 87
26) iodomethane	6.49	142	9720	1.65 ug/L 99
27) carbon disulfide	6.61	76	15292	1.59 ug/L 93
28) methylene chloride	6.87	84	6460	1.97 ug/L 92
29) methyl acetate	6.65	74	797	1.67 ug/L # 65
31) methyl tert butyl ether	7.18	73	18288	2.04 ug/L 97
32) trans-1,2-dichloroethene	7.22	96	5797	1.97 ug/L 97
33) di-isopropyl ether	7.69	45	25297	2.10 ug/L 97
34) 2-butanone	8.32	72	3413	9.03 ug/L # 86
35) 1,1-dichloroethane	7.73	63	11675	2.00 ug/L 97
36) chloroprene	7.82	53	9537	1.98 ug/L 97
37) acrylonitrile	7.13	53	12070	9.67 ug/L 98
38) vinyl acetate	7.66	86	1031	1.76 ug/L # 37
39) ethyl tert-butyl ether	8.11	59	21053	2.01 ug/L 98
40) ethyl acetate	8.31	45	934	1.77 ug/L # 74
41) 2,2-dichloropropane	8.40	77	5744	1.98 ug/L 98
42) cis-1,2-dichloroethene	8.37	96	6551	1.98 ug/L 95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanht
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) methylacrylate	8.40	85	786	1.71	ug/L #	53
44) propionitrile	8.39	54	9345	20.73	ug/L	97
45) bromochloromethane	8.65	128	3191	1.87	ug/L	96
46) tetrahydrofuran	8.66	42	2285	2.09	ug/L	89
47) chloroform	8.71	85	6803	1.98	ug/L	95
48) T-BUTYL FORMATE	8.74	59	5207	1.92	ug/L	86
52) methacrylonitrile	8.56	41	4609	2.05	ug/L	99
53) 1,1,1-trichloroethane	8.95	97	7509	1.79	ug/L	90
54) cyclohexane	9.06	84	6917	1.59	ug/L	96
57) epichlorohydrin	10.87	57	3333	9.95	ug/L	93
58) n-butyl alcohol	9.75	56	9030	97.96	ug/L	92
59) carbon tetrachloride	9.14	117	6822	1.85	ug/L	98
60) 1,1-dichloropropene	9.11	75	7865	1.91	ug/L	97
61) hexane	7.52	57	10609	2.02	ug/L	97
62) Tert Amyl alcohol	9.21	73	1657	11.53	ug/L	96
63) benzene	9.35	78	23812	2.01	ug/L	93
64) iso-octane	9.42	57	27719	2.05	ug/L	96
65) tert-amyl methyl ether	9.40	87	3911	2.01	ug/L #	81
66) heptane	9.56	57	6740	2.11	ug/L	91
67) isopropyl acetate	9.23	61	2534	1.95	ug/L #	74
68) 1,2-dichloroethane	9.37	62	8171	2.09	ug/L	99
69) trichloroethene	10.02	95	6034	1.95	ug/L	96
71) ethyl acrylate	9.99	55	7406	1.88	ug/L	99
72) 2-nitropropane	10.75	41	2322	1.91	ug/L #	81
73) 2-chloroethyl vinyl ether	10.77	63	20043	9.91	ug/L	97
74) methyl methacrylate	10.25	100	1607	1.83	ug/L #	83
75) 1,2-dichloropropane	10.30	63	7196	2.13	ug/L	95
76) dibromomethane	10.41	93	3845	1.97	ug/L	86
77) methylcyclohexane	10.30	83	11072	2.06	ug/L	96
78) bromodichloromethane	10.55	83	7814	1.90	ug/L	97
79) cis-1,3-dichloropropene	11.00	75	10600	1.91	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	13642	10.49	ug/L	98
82) toluene	11.39	92	14726	1.96	ug/L	99
83) 3-methyl-1-butanol	11.09	55	5766	42.27	ug/L	86
84) trans-1,3-dichloropropene	11.57	75	8639	1.85	ug/L	92
85) ethyl methacrylate	11.56	69	7935	1.87	ug/L	99
86) 1,1,2-trichloroethane	11.81	83	4867	1.96	ug/L	97
87) 2-hexanone	11.97	58	14579	10.59	ug/L	93
89) tetrachloroethene	11.96	164	6298	1.99	ug/L	91
90) 1,3-dichloropropane	12.00	76	10107	2.09	ug/L	91
91) butyl acetate	12.05	56	4485	1.92	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.17	57	5680	20.24	ug/L	93
93) dibromochloromethane	12.26	129	5756	1.70	ug/L	94
94) 1,2-dibromoethane	12.43	107	6368	1.92	ug/L	91
95) n-butyl ether	12.88	57	27314	1.87	ug/L #	72
96) chlorobenzene	12.94	112	17066	1.96	ug/L	93
97) 1,1,1,2-tetrachloroethane	13.01	131	6007	1.89	ug/L	94
98) ethylbenzene	13.00	91	29195	2.02	ug/L	95
99) m,p-xylene	13.13	106	22903	3.97	ug/L	90
100) o-xylene	13.57	106	11423	1.92	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanht
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

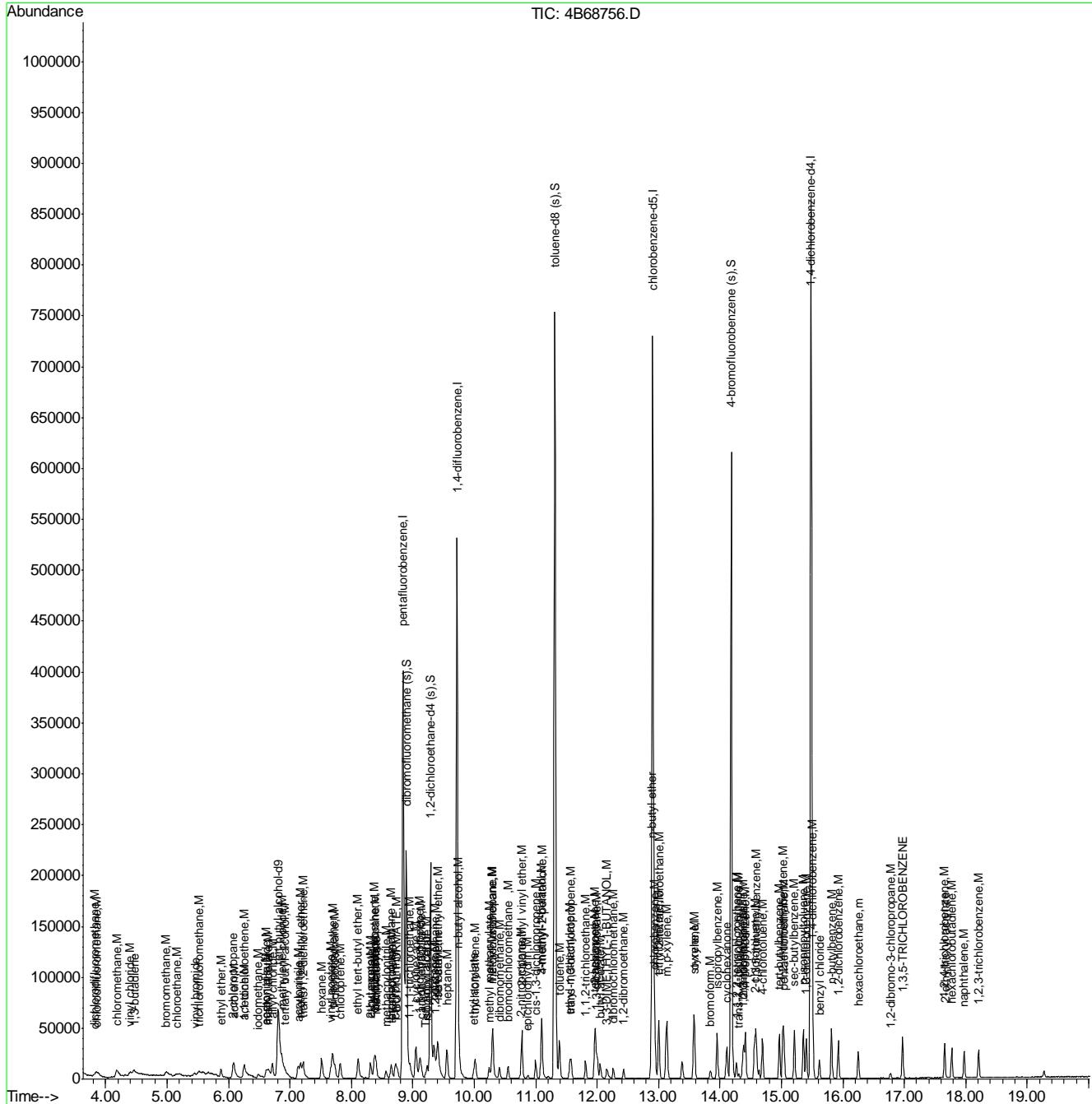
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
101) styrene	13.59	104	19293	1.94	ug/L	94
102) bromoform	13.84	173	3637	1.47	ug/L	91
104) isopropylbenzene	13.95	105	28811	1.94	ug/L	98
106) cyclohexanone	14.11	55	15354	21.65	ug/L	98
107) bromobenzene	14.39	156	8650	2.01	ug/L	89
108) 1,1,2,2-tetrachloroethane	14.27	83	8161	1.96	ug/L	91
109) trans-1,4-dichloro-2-buten	14.30	53	1121	1.31	ug/L	80
110) 1,2,3-trichloropropane	14.37	110	2067	1.98	ug/L	78
111) n-propylbenzene	14.41	91	35778	2.04	ug/L	98
113) 2-chlorotoluene	14.57	126	7470	1.96	ug/L	99
114) 4-chlorotoluene	14.69	91	21916	2.02	ug/L	97
115) 1,3,5-trimethylbenzene	14.59	105	25354	2.05	ug/L	96
116) tert-butylbenzene	14.97	119	22526	1.97	ug/L	98
117) pentachloroethane	15.04	167	4841	1.87	ug/L	88
118) 1,2,4-trimethylbenzene	15.03	105	25808	2.02	ug/L	98
119) sec-butylbenzene	15.21	105	33551	1.95	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	16782	2.05	ug/L	97
121) p-isopropyltoluene	15.36	119	28756	1.92	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	16078	2.00	ug/L	96
123) benzyl chloride	15.62	91	13212	1.74	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	16347	2.04	ug/L	97
126) n-butylbenzene	15.82	92	15021	1.89	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	1186	1.67	ug/L	90
129) 1,3,5-TRICHLOROBENZENE	16.97	180	13710	1.91	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	11503	1.80	ug/L	90
131) hexachlorobutadiene	17.77	225	7235	1.99	ug/L	90
132) naphthalene	17.97	128	21157	1.85	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	10427	1.86	ug/L	95
134) hexachloroethane	16.25	201	5024	1.74	ug/L	90
135) 2-ethylhexyl acrylate	17.67	70	350	0.26	ug/L #	57

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68756.D
Acq On : 27 Jan 2017 11:39 am
Operator : Hueanht
Sample : ic2825-2
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanh
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	136918	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	299326	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	416382	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	393778	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	231659	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	127522	49.97	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 99.94%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	136960	50.50	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.00%	
80) toluene-d8 (s)	11.31	98	479936	49.82	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.64%	
105) 4-bromofluorobenzene (s)	14.18	95	188700	49.90	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.80%	

Target Compounds

Qvalue

2) tertiary butyl alcohol	6.91	59	35090	101.52	ug/L	98
3) 1,4-dioxane	10.35	88	15588	531.77	ug/L	98
7) chlorodifluoromethane	3.87	51	96818	20.01	ug/L	99
8) dichlorodifluoromethane	3.83	85	84479	19.59	ug/L	95
10) chloromethane	4.17	52	41769	19.77	ug/L	93
11) vinyl chloride	4.39	62	110824	20.17	ug/L	98
12) bromomethane	4.98	94	49953	19.85	ug/L	97
13) chloroethane	5.16	64	50388	20.59	ug/L	99
14) vinyl bromide	5.44	106	71228	20.37	ug/L	99
15) trichlorofluoromethane	5.53	101	95844	20.06	ug/L	96
16) 1,3-butadiene	4.47	54	103542	23.08	ug/L	99
19) ethyl ether	5.87	74	36523	21.10	ug/L	95
20) 2-chloropropane	6.08	39	24715	21.67	ug/L	99
21) acrolein	6.09	56	134047	205.96	ug/L	97
22) 1,1-dichloroethene	6.25	96	58993	20.97	ug/L	99
23) acetone	6.26	58	35774	107.56	ug/L	93
24) allyl chloride	6.72	76	43325	17.67	ug/L	92
25) acetonitrile	6.63	40	37742	209.29	ug/L	95
26) iodomethane	6.49	142	120706	21.59	ug/L	99
27) carbon disulfide	6.62	76	199848	21.98	ug/L	99
28) methylene chloride	6.87	84	65112	20.89	ug/L	94
29) methyl acetate	6.65	74	9717	21.49	ug/L	91
31) methyl tert butyl ether	7.18	73	177867	20.89	ug/L	99
32) trans-1,2-dichloroethene	7.22	96	58756	21.02	ug/L	97
33) di-isopropyl ether	7.69	45	240544	21.08	ug/L	98
34) 2-butanone	8.31	72	38368	107.03	ug/L	95
35) 1,1-dichloroethane	7.73	63	117188	21.18	ug/L	99
36) chloroprene	7.82	53	95303	20.86	ug/L	99
37) acrylonitrile	7.13	53	126117	106.55	ug/L	96
38) vinyl acetate	7.66	86	11429	20.62	ug/L	94
39) ethyl tert-butyl ether	8.11	59	206367	20.74	ug/L	99
40) ethyl acetate	8.31	45	10762	21.48	ug/L	93
41) 2,2-dichloropropane	8.39	77	60868	22.18	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanh
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	65747	20.93	ug/L	100
43) methylacrylate	8.39	85	9309	21.41	ug/L	# 92
44) propionitrile	8.39	54	91601	214.29	ug/L	100
45) bromochloromethane	8.65	128	33973	21.00	ug/L	94
46) tetrahydrofuran	8.66	42	21810	21.06	ug/L	99
47) chloroform	8.71	85	68637	21.06	ug/L	99
48) T-BUTYL FORMATE	8.74	59	53397	20.77	ug/L	94
51) freon 113	6.26	151	50695	22.01	ug/L	97
52) methacrylonitrile	8.56	41	43228	20.25	ug/L	99
53) 1,1,1-trichloroethane	8.95	97	83587	21.04	ug/L	98
54) cyclohexane	9.06	84	87935	21.36	ug/L	98
57) epichlorohydrin	10.87	57	33522	103.53	ug/L	95
58) n-butyl alcohol	9.75	56	100512	1127.55	ug/L	98
59) carbon tetrachloride	9.14	117	75301	21.12	ug/L	100
60) 1,1-dichloropropene	9.11	75	84730	21.29	ug/L	98
61) hexane	7.52	57	103470	20.33	ug/L	99
62) Tert Amyl alcohol	9.21	73	15702	112.97	ug/L	97
63) benzene	9.35	78	239692	20.88	ug/L	100
64) iso-octane	9.42	57	265234	20.28	ug/L	99
65) tert-amyl methyl ether	9.40	87	39060	20.75	ug/L	94
66) heptane	9.56	57	61786	19.98	ug/L	98
67) isopropyl acetate	9.23	61	25690	20.48	ug/L	94
68) 1,2-dichloroethane	9.37	62	79009	20.94	ug/L	98
69) trichloroethene	10.02	95	63065	21.13	ug/L	97
71) ethyl acrylate	9.99	55	79431	20.84	ug/L	100
72) 2-nitropropane	10.75	41	24851	21.18	ug/L	# 56
73) 2-chloroethyl vinyl ether	10.77	63	204514	104.61	ug/L	99
74) methyl methacrylate	10.24	100	17504	20.61	ug/L	95
75) 1,2-dichloropropane	10.30	63	68995	21.10	ug/L	98
76) dibromomethane	10.41	93	38898	20.59	ug/L	94
77) methylcyclohexane	10.30	83	106124	20.37	ug/L	98
78) bromodichloromethane	10.55	83	81882	20.58	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	111447	20.75	ug/L	96
81) 4-methyl-2-pentanone	11.09	58	134497	106.96	ug/L	94
82) toluene	11.39	92	150368	20.70	ug/L	97
83) 3-methyl-1-butanol	11.09	55	57451	435.55	ug/L	94
84) trans-1,3-dichloropropene	11.57	75	94532	20.99	ug/L	95
85) ethyl methacrylate	11.55	69	85501	20.81	ug/L	99
86) 1,1,2-trichloroethane	11.81	83	49059	20.48	ug/L	99
87) 2-hexanone	11.97	58	140613	105.65	ug/L	97
89) tetrachloroethene	11.96	164	62023	20.19	ug/L	96
90) 1,3-dichloropropane	12.00	76	94990	20.23	ug/L	98
91) butyl acetate	12.05	56	46251	20.36	ug/L	97
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	56222	206.02	ug/L	98
93) dibromochloromethane	12.26	129	65496	19.83	ug/L	98
94) 1,2-dibromoethane	12.43	107	63815	19.83	ug/L	100
95) n-butyl ether	12.88	57	292462	20.56	ug/L	99
96) chlorobenzene	12.94	112	172031	20.27	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	62377	20.20	ug/L	97
98) ethylbenzene	13.00	91	287271	20.46	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanht
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

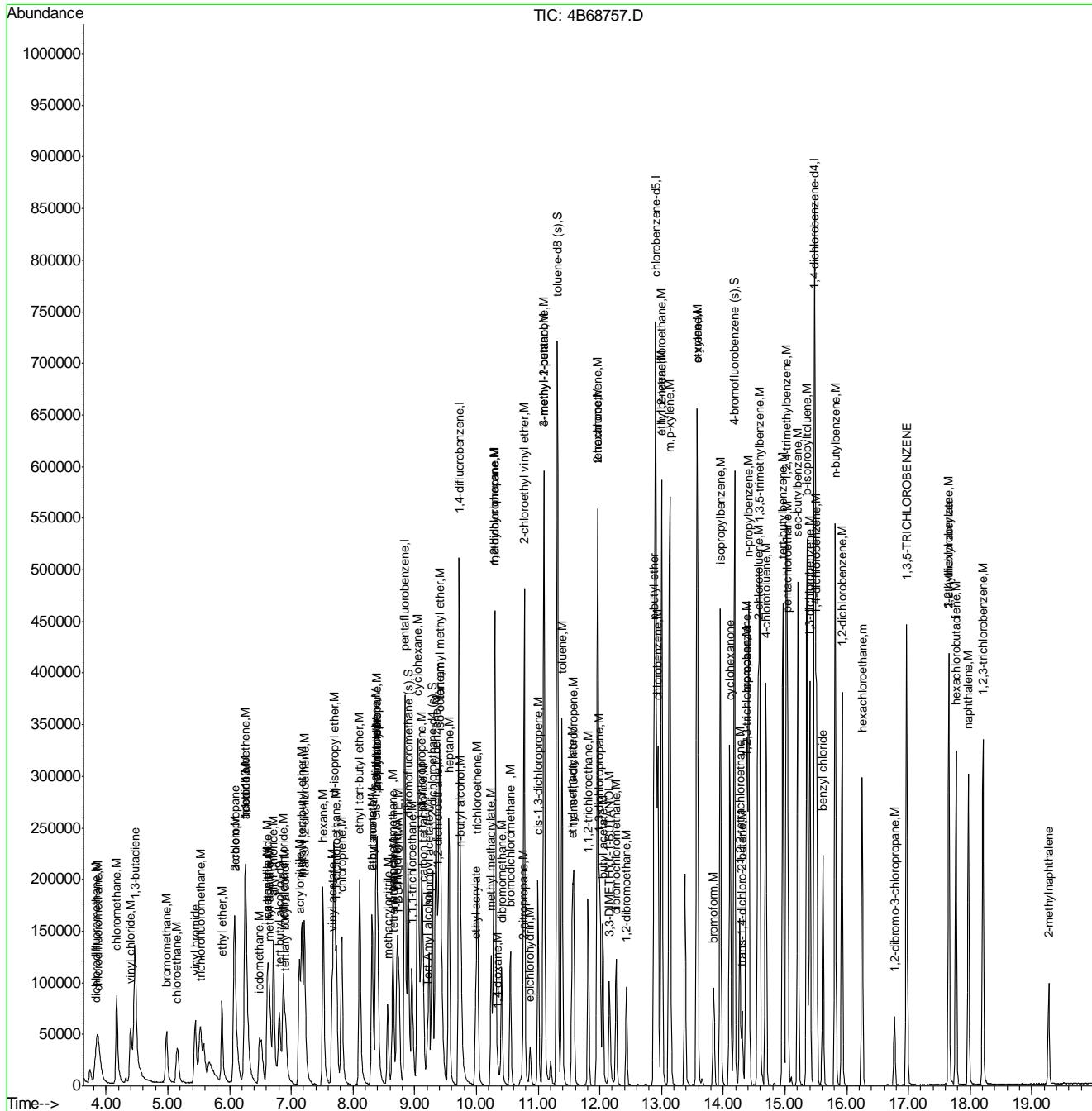
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	224981	40.09	ug/L	96
100) o-xylene	13.57	106	116151	20.10	ug/L	98
101) styrene	13.58	104	196755	20.39	ug/L	99
102) bromoform	13.84	173	45527	18.97	ug/L	97
104) isopropylbenzene	13.95	105	306029	20.91	ug/L	100
106) cyclohexanone	14.11	55	151199	215.81	ug/L	100
107) bromobenzene	14.38	156	86204	20.31	ug/L	99
108) 1,1,2,2-tetrachloroethane	14.27	83	83797	20.42	ug/L	100
109) trans-1,4-dichloro-2-butene	14.30	53	14347	16.92	ug/L	99
110) 1,2,3-trichloropropane	14.37	110	21354	20.72	ug/L	98
111) n-propylbenzene	14.41	91	359218	20.74	ug/L	99
113) 2-chlorotoluene	14.56	126	76584	20.37	ug/L	97
114) 4-chlorotoluene	14.69	91	220148	20.50	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	253652	20.73	ug/L	100
116) tert-butylbenzene	14.96	119	234160	20.72	ug/L	97
117) pentachloroethane	15.04	167	52369	20.51	ug/L	98
118) 1,2,4-trimethylbenzene	15.02	105	264305	20.96	ug/L	99
119) sec-butylbenzene	15.21	105	355365	20.88	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	166651	20.64	ug/L	99
121) p-isopropyltoluene	15.36	119	314684	21.22	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	163199	20.53	ug/L	99
123) benzyl chloride	15.61	91	156423	20.82	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	167009	21.07	ug/L	99
126) n-butylbenzene	15.82	92	167627	21.32	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	14459	20.65	ug/L	95
129) 1,3,5-TRICHLOROBENZENE	16.97	180	154179	21.69	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	136912	21.63	ug/L	97
131) hexachlorobutadiene	17.77	225	77420	21.56	ug/L	98
132) naphthalene	17.97	128	237940	21.09	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	117091	21.13	ug/L	100
134) hexachloroethane	16.25	201	57208	20.11	ug/L	98
135) 2-ethylhexyl acrylate	17.66	70	4324	3.29	ug/L	84
136) 2-methylnaphthalene	19.27	142	53604	19.99	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68757.D
Acq On : 27 Jan 2017 12:07 pm
Operator : Hueanht
Sample : ic2825-20
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	120386	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	293509	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	413869	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	382133	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	230264	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	125928	50.32	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 100.64%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	132810	49.94	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 99.88%	
80) toluene-d8 (s)	11.31	98	477998	49.92	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.84%	
105) 4-bromofluorobenzene (s)	14.18	95	186327	49.57	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.14%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.90	59	78467	258.20 ug/L 99
3) 1,4-dioxane	10.34	88	35068	1360.61 ug/L 100
7) chlorodifluoromethane	3.87	51	239254	50.43 ug/L 100
8) dichlorodifluoromethane	3.83	85	221009	52.28 ug/L 100
10) chloromethane	4.17	52	102536	49.50 ug/L 100
11) vinyl chloride	4.40	62	277944	51.58 ug/L 100
12) bromomethane	4.97	94	127909	51.84 ug/L 100
13) chloroethane	5.15	64	126732	52.81 ug/L 100
14) vinyl bromide	5.44	106	176969	51.61 ug/L 100
15) trichlorofluoromethane	5.53	101	245977	52.50 ug/L 100
16) 1,3-butadiene	4.47	54	243695	55.39 ug/L 100
19) ethyl ether	5.88	74	87926	51.81 ug/L 100
20) 2-chloropropane	6.08	39	57618	51.52 ug/L 100
21) acrolein	6.09	56	325959	510.75 ug/L 100
22) 1,1-dichloroethene	6.26	96	143508	52.03 ug/L 100
23) acetone	6.26	58	83352	255.58 ug/L 100
24) allyl chloride	6.71	76	112199	46.65 ug/L 100
25) acetonitrile	6.62	40	91530	517.61 ug/L 100
26) iodomethane	6.51	142	293302	53.51 ug/L 100
27) carbon disulfide	6.62	76	489322	54.88 ug/L 100
28) methylene chloride	6.87	84	156646	51.25 ug/L 100
29) methyl acetate	6.65	74	23889	53.89 ug/L 100
31) methyl tert butyl ether	7.17	73	426217	51.05 ug/L 100
32) trans-1,2-dichloroethene	7.22	96	141692	51.69 ug/L 100
33) di-isopropyl ether	7.69	45	566065	50.60 ug/L 100
34) 2-butanone	8.31	72	92253	262.44 ug/L 100
35) 1,1-dichloroethane	7.73	63	280346	51.66 ug/L 100
36) chloroprene	7.82	53	231290	51.64 ug/L 100
37) acrylonitrile	7.13	53	297374	256.23 ug/L 100
38) vinyl acetate	7.66	86	28974	53.32 ug/L 100
39) ethyl tert-butyl ether	8.11	59	497837	51.03 ug/L 100
40) ethyl acetate	8.31	45	26519	53.98 ug/L 100
41) 2,2-dichloropropane	8.39	77	142254	52.86 ug/L 100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	159728	51.86	ug/L	100
43) methylacrylate	8.39	85	22788	53.46	ug/L	100
44) propionitrile	8.39	54	208875	498.32	ug/L	100
45) bromochloromethane	8.65	128	82650	52.11	ug/L	100
46) tetrahydrofuran	8.66	42	50880	50.09	ug/L	100
47) chloroform	8.71	85	164174	51.38	ug/L	100
48) T-BUTYL FORMATE	8.75	59	129830	51.50	ug/L	100
51) freon 113	6.26	151	126412	55.96	ug/L	100
52) methacrylonitrile	8.56	41	107182	51.20	ug/L	100
53) 1,1,1-trichloroethane	8.95	97	207779	53.33	ug/L	100
54) cyclohexane	9.06	84	225306	55.82	ug/L	100
57) epichlorohydrin	10.87	57	79207	246.11	ug/L	100
58) n-butyl alcohol	9.75	56	211422	2386.15	ug/L	100
59) carbon tetrachloride	9.14	117	185725	52.41	ug/L	100
60) 1,1-dichloropropene	9.11	75	207096	52.35	ug/L	100
61) hexane	7.52	57	261788	51.74	ug/L	100
62) Tert Amyl alcohol	9.21	73	34538	250.00	ug/L	100
63) benzene	9.35	78	586984	51.45	ug/L	100
64) iso-octane	9.42	57	659965	50.77	ug/L	100
65) tert-amyl methyl ether	9.40	87	94954	50.76	ug/L	100
66) heptane	9.56	57	157355	51.18	ug/L	100
67) isopropyl acetate	9.23	61	64982	52.13	ug/L	100
68) 1,2-dichloroethane	9.37	62	190378	50.77	ug/L	100
69) trichloroethene	10.02	95	153833	51.85	ug/L	100
71) ethyl acrylate	9.99	55	197535	52.15	ug/L	100
72) 2-nitropropane	10.75	41	60236	51.66	ug/L	100
73) 2-chloroethyl vinyl ether	10.77	63	501392	258.02	ug/L	100
74) methyl methacrylate	10.24	100	44514	52.74	ug/L	100
75) 1,2-dichloropropane	10.30	63	164195	50.52	ug/L	100
76) dibromomethane	10.41	93	96724	51.52	ug/L	100
77) methylcyclohexane	10.30	83	264745	51.13	ug/L	100
78) bromodichloromethane	10.55	83	206252	52.14	ug/L	100
79) cis-1,3-dichloropropene	11.00	75	278457	52.16	ug/L	100
81) 4-methyl-2-pentanone	11.09	58	313618	250.92	ug/L	100
82) toluene	11.39	92	372559	51.61	ug/L	100
83) 3-methyl-1-butanol	11.08	55	126072	961.59	ug/L	100
84) trans-1,3-dichloropropene	11.58	75	235398	52.58	ug/L	100
85) ethyl methacrylate	11.55	69	213408	52.26	ug/L	100
86) 1,1,2-trichloroethane	11.81	83	122279	51.34	ug/L	100
87) 2-hexanone	11.97	58	329043	248.72	ug/L	100
89) tetrachloroethene	11.96	164	154471	51.82	ug/L	100
90) 1,3-dichloropropane	12.00	76	228709	50.20	ug/L	100
91) butyl acetate	12.05	56	111807	50.72	ug/L	100
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	127861	482.82	ug/L	100
93) dibromochloromethane	12.26	129	171211	53.43	ug/L	100
94) 1,2-dibromoethane	12.43	107	160978	51.54	ug/L	100
95) n-butyl ether	12.88	57	724357	52.48	ug/L	100
96) chlorobenzene	12.94	112	422971	51.36	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.01	131	155866	52.00	ug/L	100
98) ethylbenzene	13.00	91	696825	51.15	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

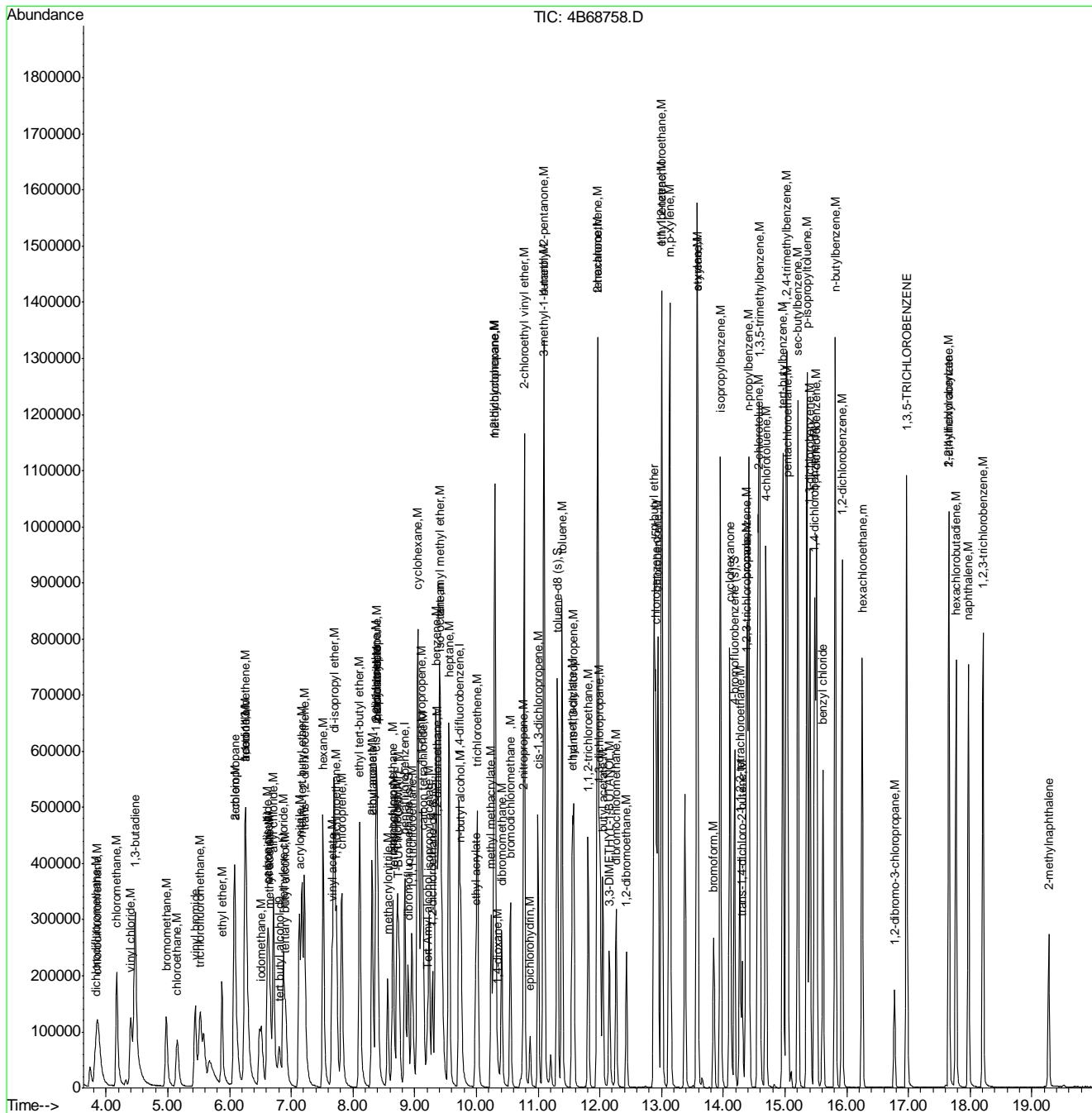
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	555366	101.97	ug/L	100
100) o-xylene	13.57	106	290521	51.82	ug/L	100
101) styrene	13.58	104	482007	51.48	ug/L	100
102) bromoform	13.84	173	127746	54.85	ug/L	100
104) isopropylbenzene	13.95	105	757335	52.06	ug/L	100
106) cyclohexanone	14.11	55	350384	503.14	ug/L	100
107) bromobenzene	14.38	156	216101	51.23	ug/L	100
108) 1,1,2,2-tetrachloroethane	14.27	83	210514	51.62	ug/L	100
109) trans-1,4-dichloro-2-butene	14.30	53	42953	50.96	ug/L	100
110) 1,2,3-trichloropropane	14.37	110	51703	50.48	ug/L	100
111) n-propylbenzene	14.41	91	878247	51.01	ug/L	100
113) 2-chlorotoluene	14.57	126	192548	51.53	ug/L	100
114) 4-chlorotoluene	14.69	91	547975	51.32	ug/L	100
115) 1,3,5-trimethylbenzene	14.59	105	623794	51.28	ug/L	100
116) tert-butylbenzene	14.97	119	584618	52.03	ug/L	100
117) pentachloroethane	15.04	167	129875	51.17	ug/L	100
118) 1,2,4-trimethylbenzene	15.02	105	649054	51.77	ug/L	100
119) sec-butylbenzene	15.21	105	886910	52.44	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	410105	51.11	ug/L	100
121) p-isopropyltoluene	15.36	119	778040	52.79	ug/L	100
122) 1,4-dichlorobenzene	15.51	146	407781	51.62	ug/L	100
123) benzyl chloride	15.61	91	402260	53.88	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	405001	51.40	ug/L	100
126) n-butylbenzene	15.82	92	418847	53.61	ug/L	100
128) 1,2-dibromo-3-chloropropan	16.77	75	38060	54.70	ug/L	100
129) 1,3,5-TRICHLOROBENZENE	16.97	180	372033	52.66	ug/L	100
130) 1,2,4-trichlorobenzene	17.66	180	336923	53.55	ug/L	100
131) hexachlorobutadiene	17.77	225	184076	51.56	ug/L	100
132) naphthalene	17.97	128	593060	52.88	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	290084	52.67	ug/L	100
134) hexachloroethane	16.25	201	152982	54.11	ug/L	100
135) 2-ethylhexyl acrylate	17.66	70	14093	10.80	ug/L	100
136) 2-methylnaphthalene	19.27	142	151506	56.83	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68758.D
Acq On : 27 Jan 2017 12:35 pm
Operator : Hueanht
Sample : icc2825-50
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.82	65	117695	500.00	ug/L	0.02
5) pentafluorobenzene	8.84	168	281126	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	397934	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	360023	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	229018	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	120856	50.42	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	=	100.84%
50) 1,2-dichloroethane-d4 (s)	9.29	65	124126	48.73	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	=	97.46%
80) toluene-d8 (s)	11.31	98	461918	50.17	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	=	100.34%
105) 4-bromofluorobenzene (s)	14.18	95	187654	50.19	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	=	100.38%

Target Compounds

Qvalue

2) tertiary butyl alcohol	6.92	59	292190	983.43	ug/L	94
3) 1,4-dioxane	10.35	88	130726	5188.01	ug/L	95
7) chlorodifluoromethane	3.86	51	891674	196.24	ug/L	98
8) dichlorodifluoromethane	3.82	85	828657	204.65	ug/L	99
10) chloromethane	4.17	52	367670	185.30	ug/L	97
11) vinyl chloride	4.40	62	1003305	194.40	ug/L	98
12) bromomethane	4.96	94	378050	159.98	ug/L	98
13) chloroethane	5.14	64	424694	184.76	ug/L	98
14) vinyl bromide	5.43	106	628677	191.43	ug/L	100
15) trichlorofluoromethane	5.52	101	869932	193.87	ug/L	99
16) 1,3-butadiene	4.47	54	824347	195.63	ug/L	100
19) ethyl ether	5.88	74	307945	189.43	ug/L	99
20) 2-chloropropane	6.08	39	181598	169.54	ug/L	91
21) acrolein	6.09	56	1113828	1822.14	ug/L	99
22) 1,1-dichloroethene	6.25	96	498924	188.84	ug/L	97
23) acetone	6.26	58	274928	880.13	ug/L	100
24) allyl chloride	6.71	76	401893	174.48	ug/L	91
25) acetonitrile	6.63	40	308508	1821.48	ug/L	97
26) iodomethane	6.51	142	1076862	205.12	ug/L	99
27) carbon disulfide	6.62	76	1718755	201.24	ug/L	100
28) methylene chloride	6.87	84	554903	189.55	ug/L	95
29) methyl acetate	6.65	74	85923	202.35	ug/L	94
31) methyl tert butyl ether	7.18	73	1455418	181.99	ug/L	100
32) trans-1,2-dichloroethene	7.21	96	489213	186.34	ug/L	99
33) di-isopropyl ether	7.70	45	1890808	176.46	ug/L	97
34) 2-butanone	8.31	72	328935	976.99	ug/L	# 91
35) 1,1-dichloroethane	7.73	63	943492	181.52	ug/L	99
36) chloroprene	7.81	53	801378	186.80	ug/L	99
37) acrylonitrile	7.13	53	1047575	942.39	ug/L	99
38) vinyl acetate	7.66	86	106216	204.07	ug/L	95
39) ethyl tert-butyl ether	8.11	59	1753646	187.66	ug/L	98
40) ethyl acetate	8.31	45	90568	192.47	ug/L	98
41) 2,2-dichloropropane	8.39	77	433864	168.31	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	546857	185.39	ug/L	98
43) methylacrylate	8.39	85	81888	200.56	ug/L #	90
44) propionitrile	8.39	54	718818	1790.46	ug/L	99
45) bromochloromethane	8.65	128	295467	194.48	ug/L	93
46) tetrahydrofuran	8.66	42	174851	179.73	ug/L	96
47) chloroform	8.71	85	568840	185.86	ug/L	99
48) T-BUTYL FORMATE	8.75	59	469092	194.26	ug/L	97
51) freon 113	6.25	151	458773	212.05	ug/L	100
52) methacrylonitrile	8.56	41	376981	188.00	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	735467	197.08	ug/L	99
54) cyclohexane	9.06	84	787416	203.69	ug/L	93
57) epichlorohydrin	10.87	57	304724	984.76	ug/L	98
58) n-butyl alcohol	9.75	56	799425	9383.75	ug/L	98
59) carbon tetrachloride	9.14	117	661399	194.11	ug/L	98
60) 1,1-dichloropropene	9.11	75	709854	186.62	ug/L	98
61) hexane	7.52	57	912324	187.54	ug/L	98
62) Tert Amyl alcohol	9.21	73	133717	1006.66	ug/L	95
63) benzene	9.35	78	2026423	184.74	ug/L	99
64) iso-octane	9.43	57	2363068	189.08	ug/L	98
65) tert-amyl methyl ether	9.40	87	338919	188.44	ug/L	97
66) heptane	9.56	57	546303	184.80	ug/L	98
67) isopropyl acetate	9.24	61	229256	191.27	ug/L	95
68) 1,2-dichloroethane	9.37	62	641768	178.01	ug/L	99
69) trichloroethene	10.02	95	530203	185.86	ug/L	96
71) ethyl acrylate	9.99	55	710277	195.03	ug/L	99
72) 2-nitropropane	10.75	41	213114	190.09	ug/L #	82
73) 2-chloroethyl vinyl ether	10.77	63	1738283	930.36	ug/L	98
74) methyl methacrylate	10.25	100	162208	199.88	ug/L	88
75) 1,2-dichloropropane	10.30	63	544238	174.14	ug/L	98
76) dibromomethane	10.41	93	345072	191.15	ug/L	94
77) methylcyclohexane	10.30	83	926735	186.16	ug/L	97
78) bromodichloromethane	10.55	83	744592	195.78	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	990745	193.01	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	1054556	877.53	ug/L	91
82) toluene	11.39	92	1321949	190.45	ug/L	95
83) 3-methyl-1-butanol	11.09	55	448595	3558.58	ug/L	96
84) trans-1,3-dichloropropene	11.58	75	836633	194.35	ug/L	98
85) ethyl methacrylate	11.55	69	769550	196.01	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	442936	193.43	ug/L	99
87) 2-hexanone	11.97	58	1131273	889.36	ug/L	93
89) tetrachloroethene	11.96	164	537424	191.37	ug/L	98
90) 1,3-dichloropropane	12.00	76	804926	187.52	ug/L	93
91) butyl acetate	12.05	56	418638	201.56	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	495090	1984.33	ug/L	97
93) dibromochloromethane	12.27	129	659451	218.43	ug/L	100
94) 1,2-dibromoethane	12.43	107	597885	203.17	ug/L	99
95) n-butyl ether	12.88	57	2570972	197.71	ug/L	99
96) chlorobenzene	12.94	112	1522675	196.26	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	567236	200.88	ug/L	98
98) ethylbenzene	13.00	91	2420630	188.58	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

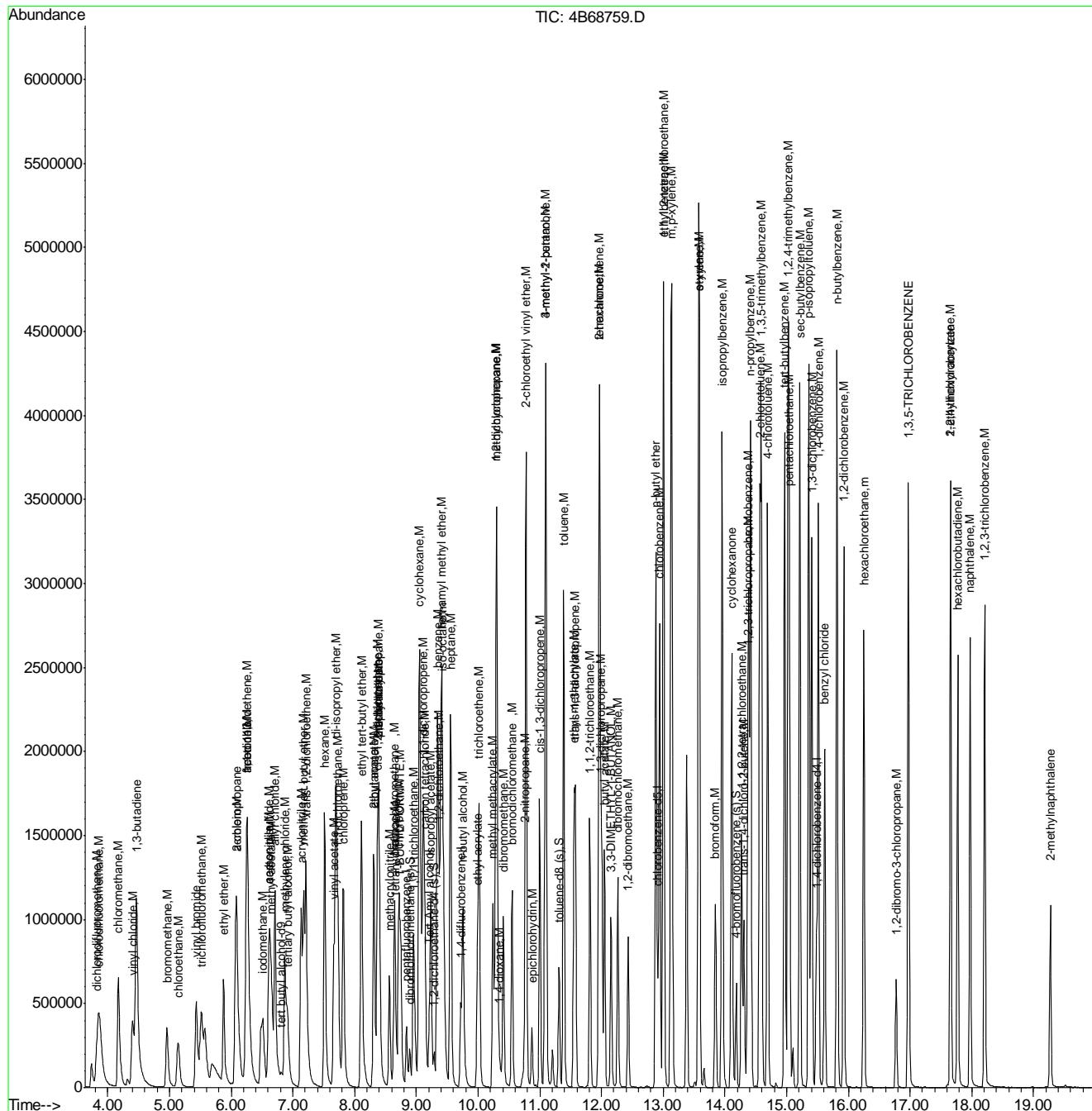
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	2023780	394.40	ug/L	97
100) o-xylene	13.57	106	1053203	199.39	ug/L	95
101) styrene	13.59	104	1726057	195.68	ug/L	93
102) bromoform	13.84	173	534424	243.55	ug/L	98
104) isopropylbenzene	13.95	105	2723589	188.23	ug/L	98
106) cyclohexanone	14.11	55	1152837	1664.44	ug/L	98
107) bromobenzene	14.39	156	799666	190.60	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	782115	192.82	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	190295	226.99	ug/L	95
110) 1,2,3-trichloropropane	14.37	110	196333	192.72	ug/L	100
111) n-propylbenzene	14.41	91	3160440	184.56	ug/L	98
113) 2-chlorotoluene	14.57	126	720285	193.82	ug/L	97
114) 4-chlorotoluene	14.69	91	1998394	188.19	ug/L	98
115) 1,3,5-trimethylbenzene	14.59	105	2213958	182.98	ug/L	97
116) tert-butylbenzene	14.97	119	2099045	187.84	ug/L	99
117) pentachloroethane	15.05	167	512338	202.95	ug/L	97
118) 1,2,4-trimethylbenzene	15.03	105	2259526	181.21	ug/L	97
119) sec-butylbenzene	15.21	105	3139005	186.61	ug/L	98
120) 1,3-dichlorobenzene	15.41	146	1466195	183.73	ug/L	99
121) p-isopropyltoluene	15.36	119	2712223	185.03	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	1480123	188.37	ug/L	99
123) benzyl chloride	15.62	91	1503774	202.50	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	1411199	180.06	ug/L	99
126) n-butylbenzene	15.82	92	1426375	183.55	ug/L	97
128) 1,2-dibromo-3-chloropropan	16.77	75	143473	207.31	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.97	180	1278411	181.93	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	1188689	189.96	ug/L	98
131) hexachlorobutadiene	17.77	225	636285	179.20	ug/L	98
132) naphthalene	17.97	128	2144996	192.31	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	1052201	192.09	ug/L	97
134) hexachloroethane	16.25	201	584899	207.99	ug/L	97
135) 2-ethylhexyl acrylate	17.66	70	74593	57.49	ug/L	89
136) 2-methylnaphthalene	19.27	142	617745	232.98	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68759.D
Acq On : 27 Jan 2017 1:03 pm
Operator : Hueanht
Sample : ic2825-200
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanht
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	148836	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	319000	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	432372	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	407648	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	237277	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132827	48.84	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 97.68%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144205	49.89	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 99.78%	
80) toluene-d8 (s)	11.31	98	500588	50.04	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 100.08%	
105) 4-bromofluorobenzene (s)	14.18	95	195400	50.45	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.90%	

Target Compounds

				Qvalue	
10) chloromethane	4.17	52	368	0.16	ug/L # 24
11) vinyl chloride	4.39	62	1125	0.19	ug/L 92
14) vinyl bromide	5.46	106	704	0.19	ug/L # 85
26) iodomethane	6.53	142	1344	0.23	ug/L 84
31) methyl tert butyl ether	7.17	73	1860	0.20	ug/L 92
32) trans-1,2-dichloroethene	7.22	96	586	0.20	ug/L # 53
33) di-isopropyl ether	7.69	45	2960	0.24	ug/L 87
35) 1,1-dichloroethane	7.73	63	1355	0.23	ug/L 82
36) chloroprene	7.82	53	1046	0.21	ug/L 92
37) acrylonitrile	7.14	53	1374	1.09	ug/L 79
39) ethyl tert-butyl ether	8.11	59	2208	0.21	ug/L 90
41) 2,2-dichloropropane	8.39	77	627	0.21	ug/L 67
45) bromochloromethane	8.65	128	295	0.17	ug/L # 81
53) 1,1,1-trichloroethane	8.96	97	837	0.20	ug/L # 71
59) carbon tetrachloride	9.13	117	755	0.20	ug/L 73
60) 1,1-dichloropropene	9.11	75	897	0.22	ug/L # 69
61) hexane	7.52	57	988	0.19	ug/L 81
63) benzene	9.34	78	2995	0.25	ug/L 99
64) iso-octane	9.41	57	2803	0.21	ug/L 95
65) tert-amyl methyl ether	9.40	87	310	0.16	ug/L # 26
68) 1,2-dichloroethane	9.37	62	754	0.19	ug/L 83
69) trichloroethene	10.02	95	626	0.20	ug/L 81
73) 2-chloroethyl vinyl ether	10.77	63	2549	1.26	ug/L 97
75) 1,2-dichloropropane	10.30	63	582	0.17	ug/L 91
76) dibromomethane	10.42	93	431	0.22	ug/L 86
77) methylcyclohexane	10.30	83	974	0.18	ug/L 94
78) bromodichloromethane	10.55	83	688	0.17	ug/L 85
79) cis-1,3-dichloropropene	11.00	75	944	0.17	ug/L 90
81) 4-methyl-2-pentanone	11.09	58	1489	1.14	ug/L 96
82) toluene	11.39	92	1918	0.25	ug/L 88
84) trans-1,3-dichloropropene	11.58	75	1017	0.22	ug/L # 67
89) tetrachloroethene	11.96	164	750	0.24	ug/L 88
90) 1,3-dichloropropane	12.00	76	1083	0.22	ug/L 84

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanht
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) dibromochloromethane	12.27	129	540	0.16	ug/L	66
94) 1,2-dibromoethane	12.44	107	667	0.20	ug/L	98
95) n-butyl ether	12.88	57	3696	0.25	ug/L	# 1
96) chlorobenzene	12.94	112	2090	0.24	ug/L	96
97) 1,1,1,2-tetrachloroethane	13.01	131	633	0.20	ug/L	95
98) ethylbenzene	13.00	91	3689	0.25	ug/L	99
99) m,p-xylene	13.13	106	2738	0.47	ug/L	97
100) o-xylene	13.57	106	1152	0.19	ug/L	86
101) styrene	13.59	104	2502	0.25	ug/L	84
104) isopropylbenzene	13.95	105	3673	0.25	ug/L	96

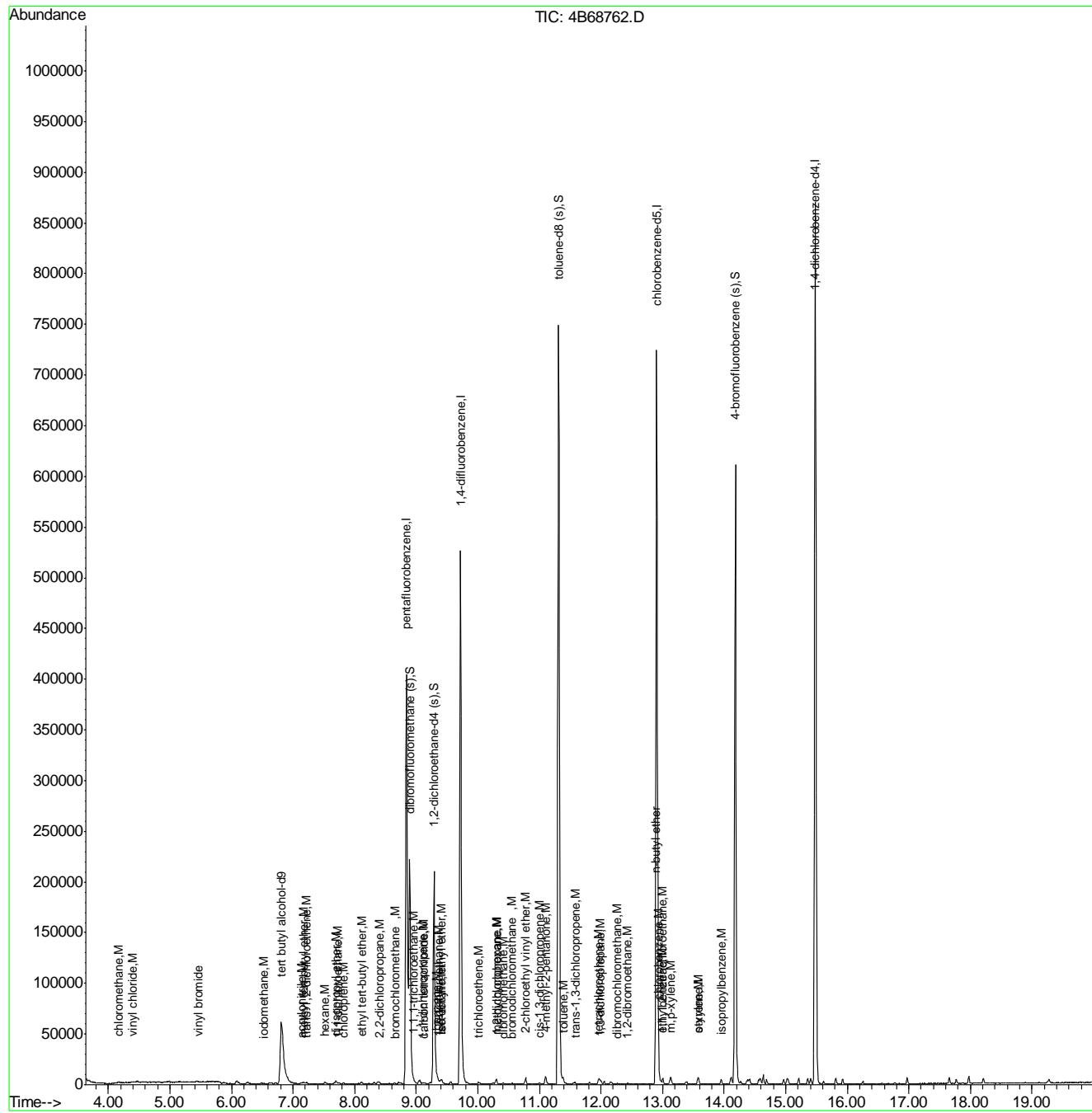
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanh
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68763.D
 Acq On : 27 Jan 2017 2:58 pm
 Operator : Hueanht
 Sample : ic2825-0.5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	151861	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	315390	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	432204	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	405339	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	237698	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	131819	49.02	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.04%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	145141	50.79	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.58%	
80) toluene-d8 (s)	11.31	98	497216	49.73	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.46%	
105) 4-bromofluorobenzene (s)	14.18	95	194311	50.08	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.16%	

Target Compounds

				Qvalue		
8) dichlorodifluoromethane	3.83	85	1802	0.40	ug/L	# 50
10) chloromethane	4.17	52	992	0.45	ug/L	94
11) vinyl chloride	4.39	62	2939	0.51	ug/L	95
13) chloroethane	5.16	64	1292	0.50	ug/L	63
14) vinyl bromide	5.44	106	1634	0.44	ug/L	# 88
21) acrolein	6.09	56	4272	6.23	ug/L	94
22) 1,1-dichloroethene	6.25	96	1245	0.42	ug/L	# 76
25) acetonitrile	6.63	40	1066	5.61	ug/L	# 63
26) iodomethane	6.51	142	3321	0.56	ug/L	81
27) carbon disulfide	6.63	76	4781	0.50	ug/L	85
28) methylene chloride	6.87	84	1631	0.50	ug/L	# 69
31) methyl tert butyl ether	7.17	73	4266	0.48	ug/L	95
32) trans-1,2-dichloroethene	7.22	96	1474	0.50	ug/L	85
33) di-isopropyl ether	7.69	45	5731	0.48	ug/L	91
34) 2-butanone	8.31	72	871	2.31	ug/L	# 20
35) 1,1-dichloroethane	7.73	63	2901	0.50	ug/L	84
36) chloroprene	7.82	53	1990	0.41	ug/L	87
37) acrylonitrile	7.13	53	3026	2.43	ug/L	92
39) ethyl tert-butyl ether	8.11	59	4944	0.47	ug/L	95
41) 2,2-dichloropropane	8.39	77	1532	0.53	ug/L	78
42) cis-1,2-dichloroethene	8.37	96	1472	0.44	ug/L	93
45) bromochloromethane	8.65	128	713	0.42	ug/L	92
47) chloroform	8.72	85	2071	0.60	ug/L	94
52) methacrylonitrile	8.57	41	1184	0.53	ug/L	88
53) 1,1,1-trichloroethane	8.96	97	2020	0.48	ug/L	# 74
54) cyclohexane	9.05	84	2152	0.50	ug/L	97
57) epichlorohydrin	10.87	57	678	2.02	ug/L	54
59) carbon tetrachloride	9.14	117	1669	0.45	ug/L	95
60) 1,1-dichloropropene	9.11	75	2269	0.55	ug/L	90
61) hexane	7.52	57	1991	0.38	ug/L	96
63) benzene	9.35	78	6230	0.52	ug/L	100
64) iso-octane	9.41	57	5632	0.41	ug/L	90
65) tert-amyl methyl ether	9.40	87	916	0.47	ug/L	# 78

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68763.D
 Acq On : 27 Jan 2017 2:58 pm
 Operator : Hueanht
 Sample : ic2825-0.5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

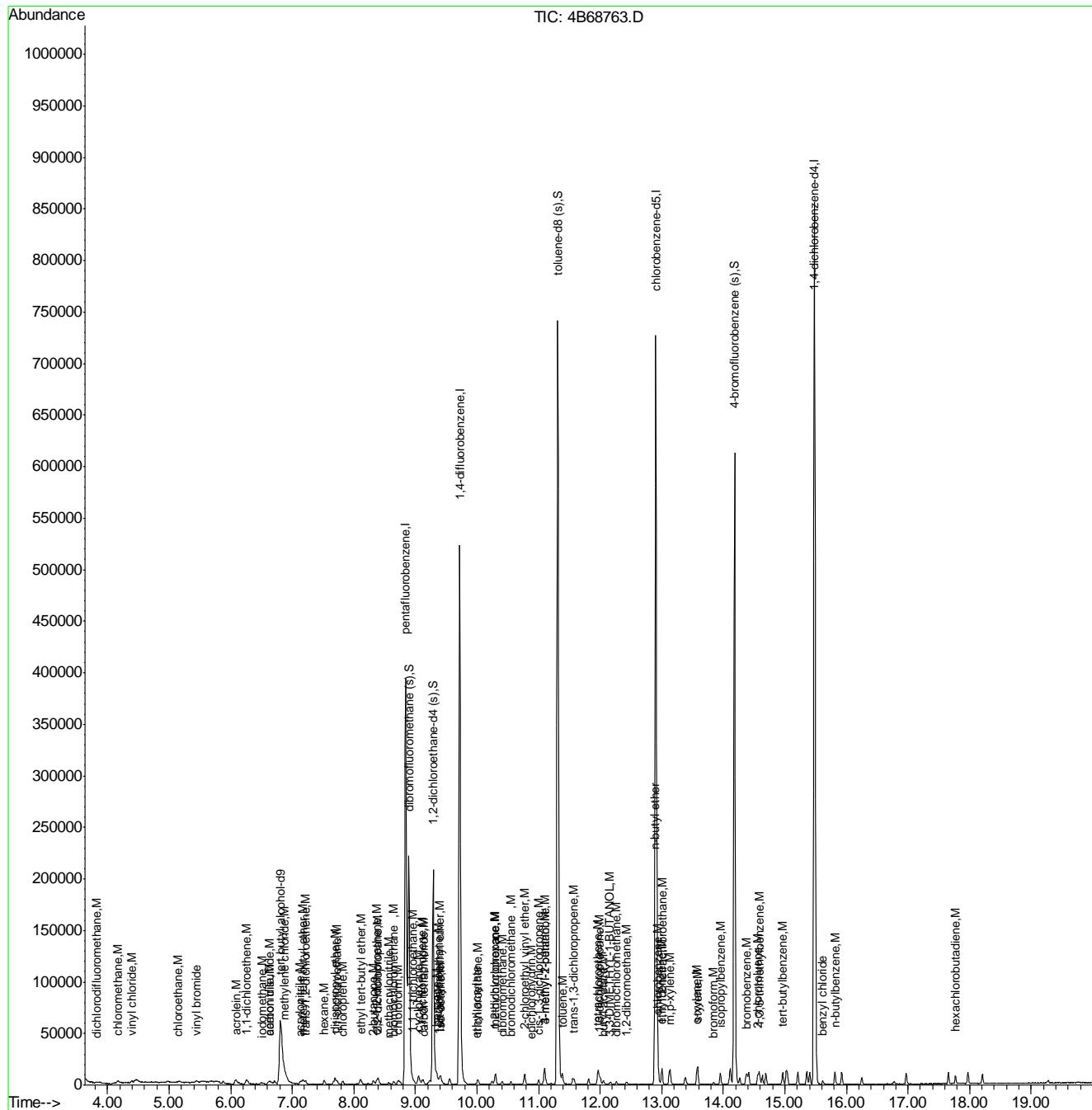
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2-dichloroethane	9.38	62	2057	0.53	ug/L	93
69) trichloroethene	10.01	95	1508	0.49	ug/L	86
71) ethyl acrylate	9.99	55	2200	0.56	ug/L	# 68
73) 2-chloroethyl vinyl ether	10.77	63	4647	2.29	ug/L	96
75) 1,2-dichloropropane	10.30	63	1632	0.48	ug/L	82
76) dibromomethane	10.40	93	980	0.50	ug/L	# 81
77) methylcyclohexane	10.30	83	2098	0.39	ug/L	97
78) bromodichloromethane	10.55	83	2117	0.51	ug/L	92
79) cis-1,3-dichloropropene	11.00	75	2545	0.46	ug/L	97
81) 4-methyl-2-pentanone	11.10	58	3804	2.91	ug/L	93
82) toluene	11.39	92	4095	0.54	ug/L	93
83) 3-methyl-1-butanol	11.09	55	1418	10.36	ug/L	80
84) trans-1,3-dichloropropene	11.57	75	2337	0.50	ug/L	# 65
89) tetrachloroethene	11.96	164	1737	0.55	ug/L	92
90) 1,3-dichloropropane	12.00	76	3180	0.66	ug/L	83
91) butyl acetate	12.05	56	982	0.42	ug/L	# 78
92) 3,3-DIMETHYL-1-BUTANOL	12.17	57	1463	5.21	ug/L	96
93) dibromochloromethane	12.26	129	1632	0.48	ug/L	98
94) 1,2-dibromoethane	12.43	107	1950	0.59	ug/L	95
95) n-butyl ether	12.88	57	8280	0.57	ug/L	# 13
96) chlorobenzene	12.94	112	4951	0.57	ug/L	96
97) 1,1,1,2-tetrachloroethane	13.01	131	1901	0.60	ug/L	93
98) ethylbenzene	13.00	91	7821	0.54	ug/L	96
99) m,p-xylene	13.14	106	6151	1.06	ug/L	98
100) o-xylene	13.57	106	3104	0.52	ug/L	98
101) styrene	13.59	104	5777	0.58	ug/L	93
102) bromoform	13.84	173	1160	0.47	ug/L	93
104) isopropylbenzene	13.95	105	8040	0.54	ug/L	93
107) bromobenzene	14.38	156	2705	0.62	ug/L	90
113) 2-chlorotoluene	14.56	126	2123	0.55	ug/L	95
115) 1,3,5-trimethylbenzene	14.59	105	6927	0.55	ug/L	98
116) tert-butylbenzene	14.96	119	6456	0.56	ug/L	100
123) benzyl chloride	15.61	91	3222	0.42	ug/L	# 94
126) n-butylbenzene	15.82	92	4225	0.52	ug/L	89
131) hexachlorobutadiene	17.77	225	2159	0.59	ug/L	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68763.D
Acq On : 27 Jan 2017 2:58 pm
Operator : Hueanht
Sample : ic2825-0.5
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanht
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.82	65	156767	500.00	ug/L	0.01
5) pentafluorobenzene	8.84	168	318206	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	433559	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	408946	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	238344	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132268	48.75	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 97.50%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	148631	51.55	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 103.10%	
80) toluene-d8 (s)	11.31	98	501254	49.97	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.94%	
105) 4-bromofluorobenzene (s)	14.18	95	197365	50.72	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 101.44%	

Target Compounds

Qvalue

2) tertiary butyl alcohol	6.93	59	2271	5.74	ug/L	82
7) chlorodifluoromethane	3.86	51	4281	0.83	ug/L	85
8) dichlorodifluoromethane	3.85	85	4021	0.88	ug/L	94
10) chloromethane	4.17	52	2116	0.94	ug/L	95
11) vinyl chloride	4.39	62	5539	0.95	ug/L	89
12) bromomethane	4.98	94	2634	0.98	ug/L	89
13) chloroethane	5.16	64	2582	0.99	ug/L	85
14) vinyl bromide	5.45	106	3416	0.92	ug/L	# 95
15) trichlorofluoromethane	5.52	101	4436	0.87	ug/L	89
16) 1,3-butadiene	4.47	54	5052	1.06	ug/L	95
19) ethyl ether	5.87	74	1482	0.81	ug/L	90
20) 2-chloropropane	6.08	39	1390	1.15	ug/L	95
21) acrolein	6.09	56	8004	11.57	ug/L	93
22) 1,1-dichloroethene	6.25	96	2807	0.94	ug/L	89
23) acetone	6.27	58	1456	4.12	ug/L	# 41
25) acetonitrile	6.64	40	2324	12.12	ug/L	97
26) iodomethane	6.48	142	6136	1.03	ug/L	91
27) carbon disulfide	6.62	76	8440	0.87	ug/L	94
28) methylene chloride	6.87	84	3224	0.97	ug/L	83
31) methyl tert butyl ether	7.18	73	8677	0.96	ug/L	94
32) trans-1,2-dichloroethene	7.22	96	2742	0.92	ug/L	94
33) di-isopropyl ether	7.69	45	13045	1.08	ug/L	93
34) 2-butanone	8.32	72	1813	4.76	ug/L	# 89
35) 1,1-dichloroethane	7.74	63	5370	0.91	ug/L	92
36) chloroprene	7.82	53	4841	1.00	ug/L	96
37) acrylonitrile	7.13	53	6279	4.99	ug/L	93
39) ethyl tert-butyl ether	8.11	59	10935	1.03	ug/L	96
41) 2,2-dichloropropane	8.40	77	2908	1.00	ug/L	98
42) cis-1,2-dichloroethene	8.37	96	3259	0.98	ug/L	96
44) propionitrile	8.40	54	5000	11.00	ug/L	94
45) bromochloromethane	8.65	128	1544	0.90	ug/L	91
46) tetrahydrofuran	8.67	42	1102	1.00	ug/L	# 68
47) chloroform	8.72	85	3751	1.08	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanht
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.75	59	2331	0.85	ug/L #	79
52) methacrylonitrile	8.56	41	2472	1.09	ug/L	97
53) 1,1,1-trichloroethane	8.95	97	4137	0.98	ug/L	90
54) cyclohexane	9.06	84	4451	1.02	ug/L #	78
57) epichlorohydrin	10.87	57	1798	5.33	ug/L	91
59) carbon tetrachloride	9.14	117	3265	0.88	ug/L	97
60) 1,1-dichloropropene	9.11	75	4017	0.97	ug/L	92
61) hexane	7.52	57	4698	0.89	ug/L	96
62) Tert Amyl alcohol	9.22	73	915	6.32	ug/L	78
63) benzene	9.35	78	11867	0.99	ug/L	98
64) iso-octane	9.41	57	13133	0.96	ug/L	97
65) tert-amyl methyl ether	9.39	87	1976	1.01	ug/L #	67
66) heptane	9.56	57	3024	0.94	ug/L	94
67) isopropyl acetate	9.23	61	1221	0.93	ug/L #	53
68) 1,2-dichloroethane	9.37	62	3932	1.00	ug/L	95
69) trichloroethene	10.01	95	2959	0.95	ug/L	88
71) ethyl acrylate	10.00	55	3870	0.98	ug/L	87
72) 2-nitropropane	10.76	41	1355	1.11	ug/L #	1
73) 2-chloroethyl vinyl ether	10.77	63	10539	5.18	ug/L	100
74) methyl methacrylate	10.25	100	757	0.86	ug/L #	82
75) 1,2-dichloropropane	10.30	63	3412	1.00	ug/L	93
76) dibromomethane	10.41	93	1963	1.00	ug/L	92
77) methylcyclohexane	10.30	83	5190	0.96	ug/L	91
78) bromodichloromethane	10.55	83	3622	0.87	ug/L	87
79) cis-1,3-dichloropropene	11.00	75	5101	0.91	ug/L	97
81) 4-methyl-2-pentanone	11.09	58	7064	5.40	ug/L	91
82) toluene	11.39	92	7506	0.99	ug/L	99
83) 3-methyl-1-butanol	11.09	55	3109	22.64	ug/L #	68
84) trans-1,3-dichloropropene	11.58	75	3943	0.84	ug/L	92
85) ethyl methacrylate	11.55	69	3953	0.92	ug/L	85
86) 1,1,2-trichloroethane	11.81	83	2356	0.94	ug/L	90
87) 2-hexanone	11.98	58	7198	5.19	ug/L	96
89) tetrachloroethene	11.96	164	3388	1.06	ug/L	90
90) 1,3-dichloropropane	12.00	76	5104	1.05	ug/L	85
91) butyl acetate	12.05	56	2692	1.14	ug/L #	77
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	3363	11.87	ug/L	93
93) dibromochloromethane	12.26	129	2424	0.71	ug/L	97
94) 1,2-dibromoethane	12.44	107	3185	0.95	ug/L	92
95) n-butyl ether	12.88	57	14359	0.97	ug/L #	53
96) chlorobenzene	12.94	112	8618	0.98	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	2864	0.89	ug/L	87
98) ethylbenzene	13.00	91	14669	1.01	ug/L	92
99) m,p-xylene	13.14	106	10882	1.87	ug/L	92
100) o-xylene	13.57	106	5450	0.91	ug/L #	75
101) styrene	13.59	104	9405	0.94	ug/L	93
102) bromoform	13.84	173	1430	0.57	ug/L	78
104) isopropylbenzene	13.95	105	14585	0.97	ug/L	98
106) cyclohexanone	14.11	55	8129	11.28	ug/L	96
107) bromobenzene	14.38	156	4351	1.00	ug/L	93
108) 1,1,2,2-tetrachloroethane	14.27	83	4031	0.95	ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanh
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

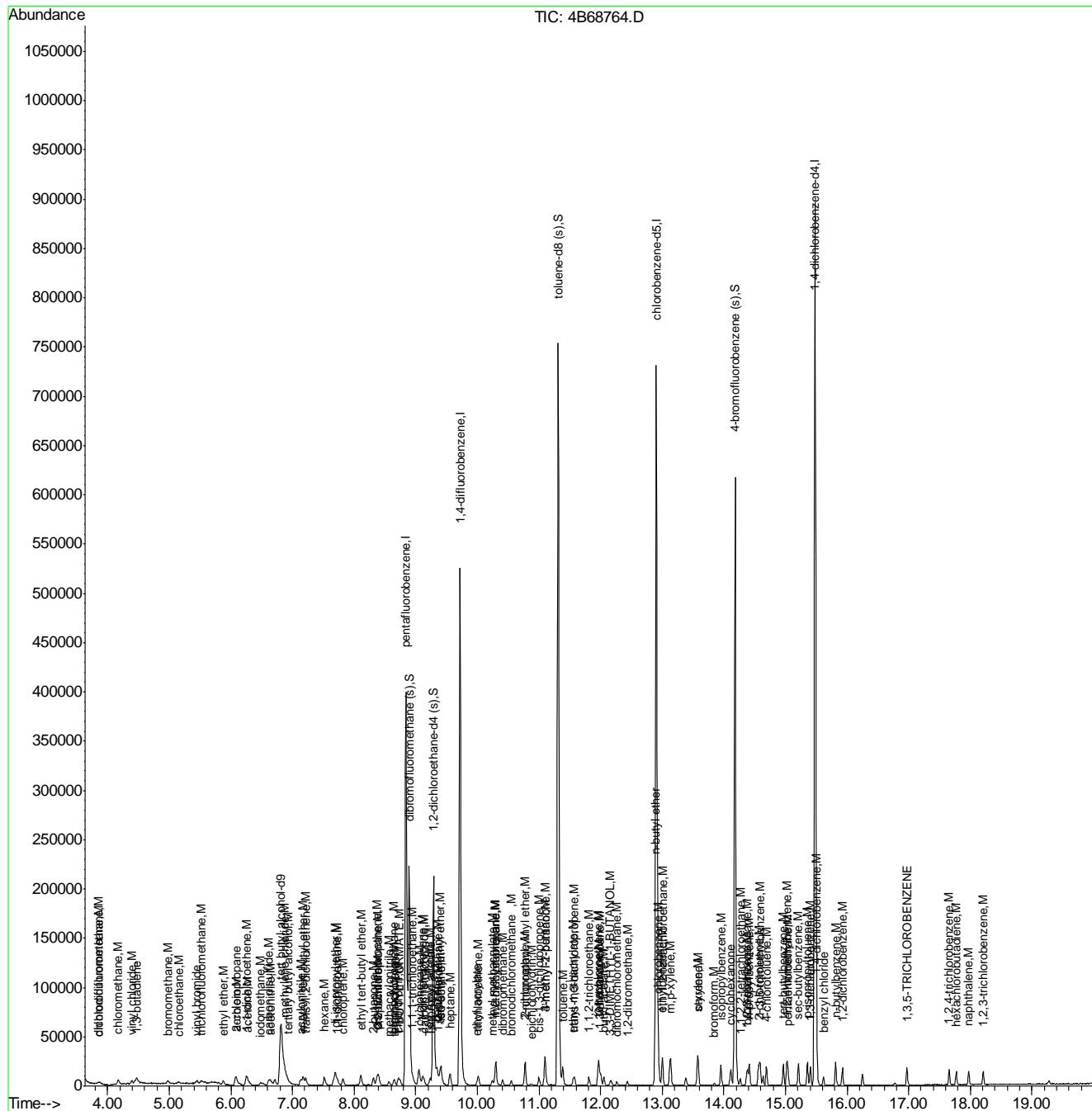
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) 1,2,3-trichloropropane	14.37	110	951	0.90	ug/L	74
111) n-propylbenzene	14.41	91	17655	0.99	ug/L	97
113) 2-chlorotoluene	14.57	126	3704	0.96	ug/L	95
114) 4-chlorotoluene	14.69	91	11046	1.00	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	12236	0.97	ug/L	95
116) tert-butylbenzene	14.97	119	11144	0.96	ug/L	91
117) pentachloroethane	15.05	167	2156	0.82	ug/L	86
118) 1,2,4-trimethylbenzene	15.03	105	12223	0.94	ug/L	95
119) sec-butylbenzene	15.21	105	16553	0.95	ug/L	97
120) 1,3-dichlorobenzene	15.40	146	8717	1.05	ug/L	94
121) p-isopropyltoluene	15.36	119	14047	0.92	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	8261	1.01	ug/L	100
123) benzyl chloride	15.62	91	6727	0.87	ug/L	98
124) 1,2-dichlorobenzene	15.93	146	8214	1.01	ug/L	97
126) n-butylbenzene	15.82	92	7424	0.92	ug/L	91
129) 1,3,5-TRICHLOROBENZENE	16.97	180	6654	0.91	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	5850	0.90	ug/L	93
131) hexachlorobutadiene	17.77	225	3637	0.98	ug/L	96
132) naphthalene	17.97	128	11239	0.97	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	5286	0.93	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68764.D
Acq On : 27 Jan 2017 3:26 pm
Operator : Hueanht
Sample : ic2825-1
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	147519	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	309679	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	425271	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	402095	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	228551	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	130094	49.27	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.54%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144062	51.34	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 102.68%	
80) toluene-d8 (s)	11.31	98	490379	49.84	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.68%	
105) 4-bromofluorobenzene (s)	14.18	95	190151	50.96	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 101.92%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.91	59	9804	26.33 ug/L 96
3) 1,4-dioxane	10.34	88	3984	126.14 ug/L 90
7) chlorodifluoromethane	3.86	51	25750	5.14 ug/L 97
8) dichlorodifluoromethane	3.82	85	20959	4.70 ug/L 96
10) chloromethane	4.18	52	11877	5.43 ug/L 88
11) vinyl chloride	4.40	62	28208	4.96 ug/L 97
12) bromomethane	4.98	94	14060	5.40 ug/L 93
13) chloroethane	5.17	64	11500	4.54 ug/L 91
14) vinyl bromide	5.44	106	17734	4.90 ug/L 100
15) trichlorofluoromethane	5.51	101	23885	4.83 ug/L 96
16) 1,3-butadiene	4.47	54	18423	3.97 ug/L 97
19) ethyl ether	5.88	74	8686	4.85 ug/L 95
20) 2-chloropropane	6.08	39	5646	4.79 ug/L 97
21) acrolein	6.09	56	34454	51.17 ug/L 99
22) 1,1-dichloroethene	6.26	96	15245	5.24 ug/L 92
23) acetone	6.26	58	8983	26.11 ug/L 88
24) allyl chloride	6.72	76	24243	9.55 ug/L # 71
25) acetonitrile	6.63	40	10492	56.23 ug/L 97
26) iodomethane	6.49	142	23732	4.10 ug/L 97
27) carbon disulfide	6.62	76	35802	3.81 ug/L 97
28) methylene chloride	6.87	84	16176	5.02 ug/L 96
29) methyl acetate	6.66	74	2428	5.19 ug/L # 78
31) methyl tert butyl ether	7.18	73	46581	5.29 ug/L 98
32) trans-1,2-dichloroethene	7.22	96	15181	5.25 ug/L 98
33) di-isopropyl ether	7.70	45	63314	5.36 ug/L 99
34) 2-butanone	8.31	72	9527	25.69 ug/L 96
35) 1,1-dichloroethane	7.74	63	30366	5.30 ug/L 96
36) chloroprene	7.82	53	24549	5.19 ug/L 97
37) acrylonitrile	7.13	53	31791	25.96 ug/L 93
38) vinyl acetate	7.67	86	2708	4.72 ug/L 74
39) ethyl tert-butyl ether	8.11	59	52609	5.11 ug/L 99
40) ethyl acetate	8.32	45	2789	5.38 ug/L 74
41) 2,2-dichloropropane	8.40	77	14760	5.20 ug/L 98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	16612	5.11	ug/L	99
43) methylacrylate	8.40	85	2420	5.38	ug/L #	87
44) propionitrile	8.39	54	24751	55.97	ug/L	92
45) bromochloromethane	8.65	128	8362	5.00	ug/L	99
46) tetrahydrofuran	8.66	42	5764	5.38	ug/L	97
47) chloroform	8.72	85	17945	5.32	ug/L	99
48) T-BUTYL FORMATE	8.74	59	11447	4.30	ug/L	86
51) freon 113	6.26	151	9630	4.04	ug/L	94
52) methacrylonitrile	8.56	41	12311	5.57	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	19543	4.75	ug/L	94
54) cyclohexane	9.06	84	17727	4.16	ug/L #	80
57) epichlorohydrin	10.87	57	8184	24.75	ug/L	96
58) n-butyl alcohol	9.75	56	32683	358.98	ug/L	98
59) carbon tetrachloride	9.14	117	18097	4.97	ug/L	99
60) 1,1-dichloropropene	9.12	75	21393	5.26	ug/L	99
61) hexane	7.52	57	24558	4.72	ug/L	97
62) Tert Amyl alcohol	9.21	73	4782	33.69	ug/L	92
63) benzene	9.35	78	61707	5.26	ug/L	100
64) iso-octane	9.41	57	65381	4.90	ug/L	96
65) tert-amyl methyl ether	9.40	87	10413	5.42	ug/L #	88
66) heptane	9.56	57	15428	4.88	ug/L	95
67) isopropyl acetate	9.24	61	6010	4.69	ug/L #	86
68) 1,2-dichloroethane	9.37	62	20425	5.30	ug/L	94
69) trichloroethene	10.02	95	15827	5.19	ug/L	99
71) ethyl acrylate	9.99	55	20354	5.23	ug/L	99
72) 2-nitropropane	10.75	41	6507	5.43	ug/L #	83
73) 2-chloroethyl vinyl ether	10.77	63	51253	25.67	ug/L	99
74) methyl methacrylate	10.24	100	4235	4.88	ug/L	92
75) 1,2-dichloropropane	10.30	63	18079	5.41	ug/L	98
76) dibromomethane	10.41	93	9991	5.18	ug/L	92
77) methylcyclohexane	10.30	83	26793	5.04	ug/L	95
78) bromodichloromethane	10.55	83	20826	5.12	ug/L	93
79) cis-1,3-dichloropropene	11.00	75	27584	5.03	ug/L	96
81) 4-methyl-2-pentanone	11.10	58	35504	27.64	ug/L	98
82) toluene	11.39	92	38156	5.14	ug/L	100
83) 3-methyl-1-butanol	11.09	55	14716	109.23	ug/L	89
84) trans-1,3-dichloropropene	11.58	75	23449	5.10	ug/L	98
85) ethyl methacrylate	11.55	69	22161	5.28	ug/L	95
86) 1,1,2-trichloroethane	11.81	83	13262	5.42	ug/L	95
87) 2-hexanone	11.97	58	37445	27.55	ug/L	95
89) tetrachloroethene	11.96	164	16876	5.38	ug/L	96
90) 1,3-dichloropropane	12.00	76	26494	5.53	ug/L	96
91) butyl acetate	12.05	56	12107	5.22	ug/L	90
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	14237	51.09	ug/L	95
93) dibromochloromethane	12.26	129	15624	4.63	ug/L	96
94) 1,2-dibromoethane	12.43	107	16137	4.91	ug/L	97
95) n-butyl ether	12.88	57	73509	5.06	ug/L	91
96) chlorobenzene	12.94	112	44644	5.15	ug/L	95
97) 1,1,1,2-tetrachloroethane	13.01	131	16067	5.09	ug/L	95
98) ethylbenzene	13.00	91	75694	5.28	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

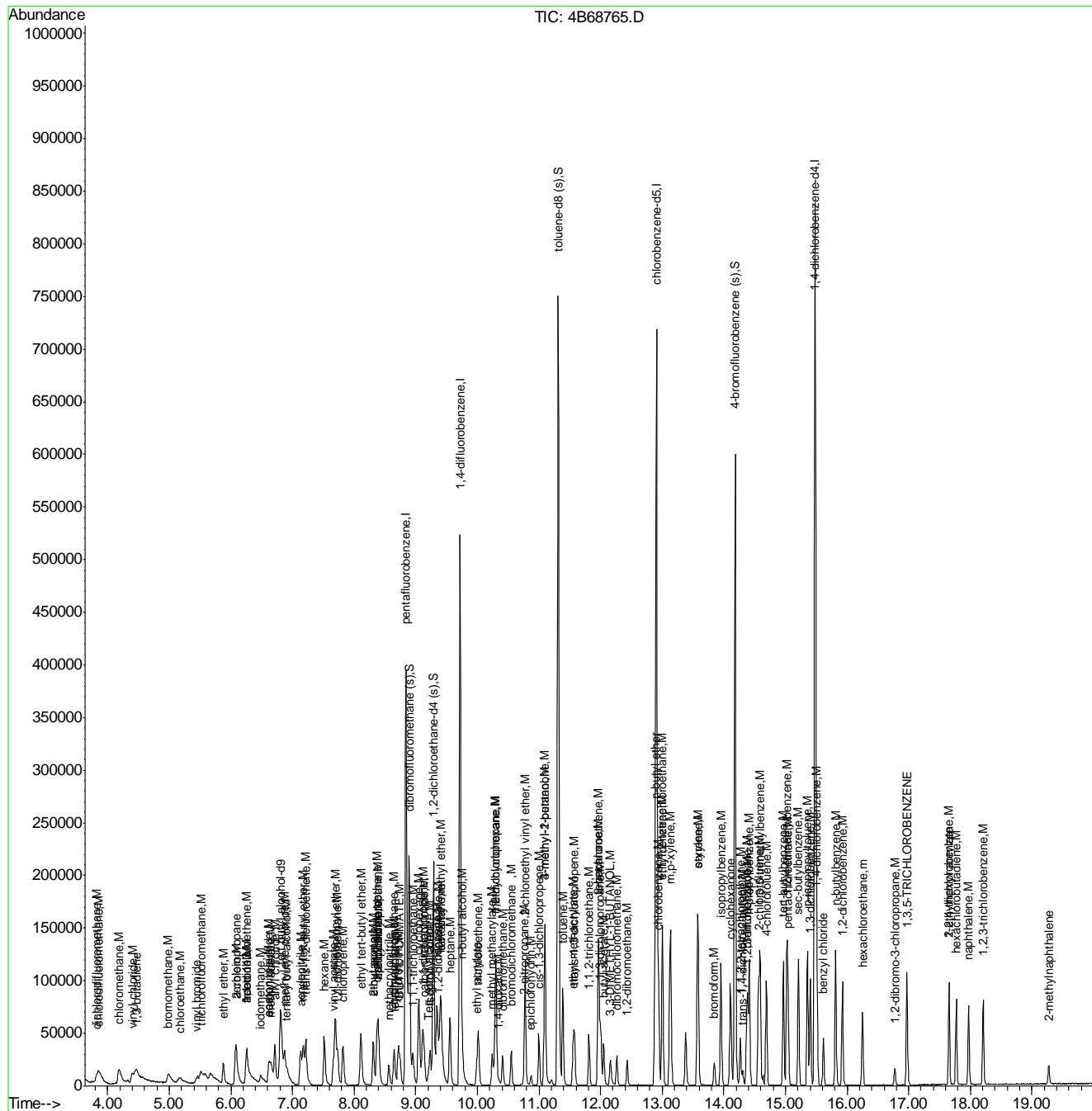
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	59353	10.36	ug/L	97
100) o-xylene	13.57	106	29804	5.05	ug/L	94
101) styrene	13.58	104	51514	5.23	ug/L	99
102) bromoform	13.85	173	10256	4.18	ug/L	95
104) isopropylbenzene	13.95	105	78020	5.40	ug/L	99
106) cyclohexanone	14.11	55	45207	65.40	ug/L	99
107) bromobenzene	14.39	156	22672	5.41	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	23332	5.76	ug/L	97
109) trans-1,4-dichloro-2-butene	14.30	53	3141	3.75	ug/L	90
110) 1,2,3-trichloropropane	14.37	110	5952	5.85	ug/L	91
111) n-propylbenzene	14.41	91	92180	5.39	ug/L	99
113) 2-chlorotoluene	14.57	126	19524	5.26	ug/L	97
114) 4-chlorotoluene	14.69	91	57124	5.39	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	65174	5.40	ug/L	98
116) tert-butylbenzene	14.96	119	59169	5.31	ug/L	95
117) pentachloroethane	15.04	167	12009	4.77	ug/L	87
118) 1,2,4-trimethylbenzene	15.03	105	67220	5.40	ug/L	100
119) sec-butylbenzene	15.21	105	88031	5.24	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	43531	5.47	ug/L	98
121) p-isopropyltoluene	15.36	119	77013	5.26	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	41623	5.31	ug/L	95
123) benzyl chloride	15.62	91	32638	4.40	ug/L	97
124) 1,2-dichlorobenzene	15.93	146	41890	5.36	ug/L	99
126) n-butylbenzene	15.82	92	39133	5.05	ug/L	94
128) 1,2-dibromo-3-chloropropan	16.77	75	3549	5.14	ug/L	93
129) 1,3,5-TRICHLOROBENZENE	16.97	180	36032	5.14	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	31528	5.05	ug/L	97
131) hexachlorobutadiene	17.77	225	18987	5.36	ug/L	95
132) naphthalene	17.97	128	58446	5.25	ug/L	98
133) 1,2,3-trichlorobenzene	18.21	180	28188	5.16	ug/L	98
134) hexachloroethane	16.25	201	12203	4.35	ug/L	92
135) 2-ethylhexyl acrylate	17.66	70	765	0.59	ug/L	85
136) 2-methylnaphthalene	19.27	142	10695	4.04	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68765.D
Acq On : 27 Jan 2017 3:57 pm
Operator : Hueanh
Sample : ic2825-5
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanht
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	147067	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	306118	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	423959	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	399337	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	230795	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	128785	49.86	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 99.72%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144468	51.62	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 103.24%	
80) toluene-d8 (s)	11.31	98	489008	49.91	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.82%	
105) 4-bromofluorobenzene (s)	14.18	95	189790	50.10	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.20%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.91	59	19682	51.32 ug/L 99
3) 1,4-dioxane	10.35	88	8412	266.68 ug/L 94
7) chlorodifluoromethane	3.86	51	47029	9.73 ug/L 98
8) dichlorodifluoromethane	3.83	85	42988	10.32 ug/L 99
10) chloromethane	4.17	52	21577	10.33 ug/L 99
11) vinyl chloride	4.40	62	58212	10.47 ug/L 98
12) bromomethane	4.98	94	25767	9.56 ug/L 97
13) chloroethane	5.16	64	26483	10.73 ug/L 98
14) vinyl bromide	5.44	106	37054	10.72 ug/L 99
15) trichlorofluoromethane	5.53	101	49997	10.94 ug/L 97
16) 1,3-butadiene	4.47	54	52266	11.64 ug/L 100
19) ethyl ether	5.88	74	18471	11.12 ug/L 98
20) 2-chloropropane	6.08	39	12275	10.35 ug/L 96
21) acrolein	6.09	56	66622	94.35 ug/L 99
22) 1,1-dichloroethene	6.26	96	29851	10.91 ug/L 98
23) acetone	6.26	58	18346	57.01 ug/L 98
24) allyl chloride	6.71	76	23674	8.93 ug/L 95
25) acetonitrile	6.63	40	20545	104.54 ug/L 91
26) iodomethane	6.52	142	61191	10.56 ug/L 98
27) carbon disulfide	6.62	76	96128	10.91 ug/L 99
28) methylene chloride	6.87	84	33125	10.44 ug/L 99
29) methyl acetate	6.65	74	5229	11.22 ug/L 96
31) methyl tert butyl ether	7.18	73	90614	10.42 ug/L 100
32) trans-1,2-dichloroethene	7.22	96	29830	10.49 ug/L 99
33) di-isopropyl ether	7.69	45	125520	10.35 ug/L 97
34) 2-butanone	8.31	72	19388	53.64 ug/L 92
35) 1,1-dichloroethane	7.74	63	61762	10.75 ug/L 99
36) chloroprene	7.82	53	48835	10.54 ug/L 98
37) acrylonitrile	7.13	53	64312	52.50 ug/L 98
38) vinyl acetate	7.66	86	5936	10.59 ug/L 97
39) ethyl tert-butyl ether	8.11	59	106088	10.37 ug/L 97
40) ethyl acetate	8.31	45	5620	11.19 ug/L 92
41) 2,2-dichloropropane	8.39	77	30586	10.67 ug/L 94

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanh
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	34371	10.47	ug/L	97
43) methylacrylate	8.39	85	4857	10.76	ug/L #	91
44) propionitrile	8.39	54	48375	106.75	ug/L	97
45) bromochloromethane	8.65	128	17336	11.05	ug/L	98
46) tetrahydrofuran	8.66	42	11842	11.04	ug/L	94
47) chloroform	8.71	85	35137	10.04	ug/L	97
48) T-BUTYL FORMATE	8.74	59	24917	10.32	ug/L	88
51) freon 113	6.26	151	24944	11.27	ug/L	99
52) methacrylonitrile	8.56	41	23158	10.23	ug/L	98
53) 1,1,1-trichloroethane	8.96	97	41935	10.47	ug/L	97
54) cyclohexane	9.06	84	43575	10.59	ug/L	94
57) epichlorohydrin	10.87	57	16981	52.53	ug/L	99
58) n-butyl alcohol	9.75	56	57244	579.84	ug/L	92
59) carbon tetrachloride	9.14	117	37405	10.57	ug/L	96
60) 1,1-dichloropropene	9.11	75	43443	10.45	ug/L	97
61) hexane	7.52	57	49403	10.15	ug/L	98
62) Tert Amyl alcohol	9.22	73	8299	50.98	ug/L	99
63) benzene	9.35	78	123977	10.17	ug/L	98
64) iso-octane	9.42	57	131688	10.14	ug/L	98
65) tert-amyl methyl ether	9.40	87	20326	10.85	ug/L	98
66) heptane	9.56	57	29926	10.22	ug/L	98
67) isopropyl acetate	9.23	61	12703	10.16	ug/L	95
68) 1,2-dichloroethane	9.37	62	41239	10.64	ug/L	99
69) trichloroethene	10.02	95	32139	10.61	ug/L	99
71) ethyl acrylate	9.99	55	40116	10.15	ug/L #	78
72) 2-nitropropane	10.75	41	12033	9.76	ug/L	91
73) 2-chloroethyl vinyl ether	10.77	63	105443	51.47	ug/L	99
74) methyl methacrylate	10.24	100	8510	10.12	ug/L #	81
75) 1,2-dichloropropane	10.30	63	35632	10.83	ug/L	96
76) dibromomethane	10.41	93	20049	10.25	ug/L	99
77) methylcyclohexane	10.30	83	53210	10.50	ug/L	97
78) bromodichloromethane	10.55	83	40726	10.37	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	55143	10.51	ug/L	97
81) 4-methyl-2-pentanone	11.09	58	69043	50.81	ug/L	92
82) toluene	11.39	92	76296	9.85	ug/L	98
83) 3-methyl-1-butanol	11.09	55	30240	217.19	ug/L	92
84) trans-1,3-dichloropropene	11.58	75	46838	10.28	ug/L	99
85) ethyl methacrylate	11.55	69	43070	9.79	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	25107	9.96	ug/L	97
87) 2-hexanone	11.97	58	73557	49.86	ug/L	95
89) tetrachloroethene	11.96	164	34187	10.43	ug/L	95
90) 1,3-dichloropropane	12.00	76	48959	9.59	ug/L	97
91) butyl acetate	12.05	56	24160	9.95	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	30740	107.25	ug/L	98
93) dibromochloromethane	12.26	129	31052	10.05	ug/L	99
94) 1,2-dibromoethane	12.43	107	32568	9.84	ug/L	100
95) n-butyl ether	12.88	57	146394	9.70	ug/L	96
96) chlorobenzene	12.94	112	87382	9.75	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	31450	9.92	ug/L	97
98) ethylbenzene	13.00	91	146562	9.79	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanht
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

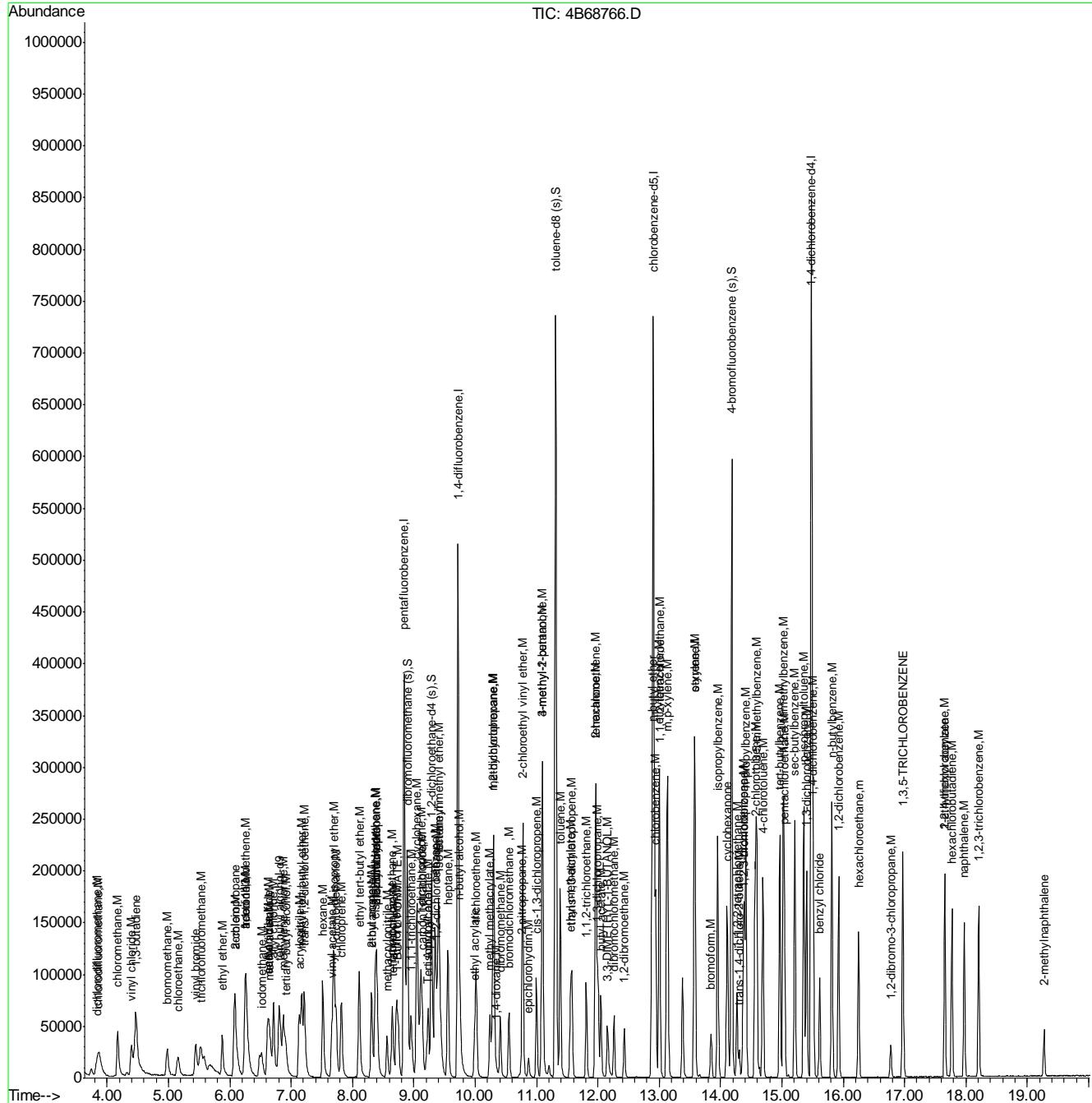
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	115441	19.76	ug/L	97
100) o-xylene	13.57	106	58804	10.13	ug/L	97
101) styrene	13.58	104	99473	9.68	ug/L	98
102) bromoform	13.84	173	20071	7.44	ug/L	98
104) isopropylbenzene	13.95	105	153993	10.12	ug/L	98
106) cyclohexanone	14.11	55	80952	108.12	ug/L	99
107) bromobenzene	14.38	156	44202	9.54	ug/L	97
108) 1,1,2,2-tetrachloroethane	14.27	83	41807	10.05	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	5360	6.77	ug/L	87
110) 1,2,3-trichloropropane	14.37	110	10717	10.32	ug/L	97
111) n-propylbenzene	14.41	91	181923	10.42	ug/L	100
113) 2-chlorotoluene	14.56	126	38731	10.32	ug/L	98
114) 4-chlorotoluene	14.69	91	111100	9.94	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	127860	9.93	ug/L	98
116) tert-butylbenzene	14.96	119	116962	9.96	ug/L	98
117) pentachloroethane	15.04	167	23143	9.45	ug/L	94
118) 1,2,4-trimethylbenzene	15.03	105	132786	10.53	ug/L	98
119) sec-butylbenzene	15.21	105	177326	10.47	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	85029	10.33	ug/L	99
121) p-isopropyltoluene	15.36	119	154668	10.52	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	81120	10.12	ug/L	99
123) benzyl chloride	15.61	91	67931	9.65	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	81391	10.17	ug/L	99
126) n-butylbenzene	15.82	92	81310	10.42	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	7141	10.18	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.97	180	73514	10.01	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	65329	10.52	ug/L	96
131) hexachlorobutadiene	17.77	225	38366	10.38	ug/L	98
132) naphthalene	17.97	128	116561	10.34	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	56791	10.36	ug/L	100
134) hexachloroethane	16.25	201	25871	9.37	ug/L	95
135) 2-ethylhexyl acrylate	17.66	70	1768	2.53	ug/L #	71
136) 2-methylnaphthalene	19.27	142	24504	8.93	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68766.D
Acq On : 27 Jan 2017 4:25 pm
Operator : Hueanht
Sample : ic2825-10
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:46:56 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	121614	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	286866	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	404778	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	367387	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	232497	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	122358	50.56	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	=	101.12%
50) 1,2-dichloroethane-d4 (s)	9.29	65	127674	48.51	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	=	97.02%
80) toluene-d8 (s)	11.31	98	465483	49.77	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	=	99.54%
105) 4-bromofluorobenzene (s)	14.18	95	185784	48.67	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	=	97.34%

Target Compounds

Qvalue

2) tertiary butyl alcohol	6.91	59	154792	486.24	ug/L	95
3) 1,4-dioxane	10.35	88	69849	2546.50	ug/L	98
7) chlorodifluoromethane	3.87	51	471135	104.42	ug/L	97
8) dichlorodifluoromethane	3.82	85	408155	104.18	ug/L	99
10) chloromethane	4.17	52	200985	102.26	ug/L	97
11) vinyl chloride	4.40	62	531767	101.51	ug/L	98
12) bromomethane	4.97	94	238296	97.89	ug/L	95
13) chloroethane	5.15	64	239650	102.67	ug/L	99
14) vinyl bromide	5.44	106	336111	102.96	ug/L	100
15) trichlorofluoromethane	5.53	101	459528	102.36	ug/L	99
16) 1,3-butadiene	4.47	54	441254	102.77	ug/L	99
19) ethyl ether	5.88	74	165086	102.16	ug/L	97
20) 2-chloropropane	6.08	39	95819	85.76	ug/L	94
21) acrolein	6.09	56	591648	900.47	ug/L	98
22) 1,1-dichloroethene	6.26	96	269906	101.85	ug/L	97
23) acetone	6.26	58	152041	480.66	ug/L	99
24) allyl chloride	6.71	76	231756	88.93	ug/L	97
25) acetonitrile	6.63	40	174109	940.07	ug/L	94
26) iodomethane	6.52	142	546645	100.04	ug/L	99
27) carbon disulfide	6.62	76	894525	107.12	ug/L	100
28) methylene chloride	6.87	84	295750	98.90	ug/L	97
29) methyl acetate	6.65	74	45952	103.15	ug/L #	89
31) methyl tert butyl ether	7.18	73	785627	95.99	ug/L	100
32) trans-1,2-dichloroethene	7.22	96	263739	98.44	ug/L	99
33) di-isopropyl ether	7.69	45	1052391	92.21	ug/L	99
34) 2-butanone	8.31	72	175124	512.36	ug/L	96
35) 1,1-dichloroethane	7.73	63	515905	95.07	ug/L	100
36) chloroprene	7.82	53	438167	100.29	ug/L	100
37) acrylonitrile	7.13	53	563588	488.23	ug/L	99
38) vinyl acetate	7.66	86	55071	103.83	ug/L	100
39) ethyl tert-butyl ether	8.11	59	944315	98.14	ug/L	98
40) ethyl acetate	8.31	45	49535	100.27	ug/L	96
41) 2,2-dichloropropane	8.39	77	243446	89.98	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	294496	98.35	ug/L	99
43) methylacrylate	8.39	85	43457	101.46	ug/L	97
44) propionitrile	8.39	54	394068	919.09	ug/L	98
45) bromochloromethane	8.65	128	155280	104.37	ug/L	98
46) tetrahydrofuran	8.66	42	94985	93.11	ug/L	98
47) chloroform	8.71	85	308359	93.95	ug/L	99
48) T-BUTYL FORMATE	8.74	59	242535	103.44	ug/L	99
51) freon 113	6.26	151	230482	101.42	ug/L	97
52) methacrylonitrile	8.56	41	202572	95.23	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	387566	102.74	ug/L	100
54) cyclohexane	9.06	84	381836	98.30	ug/L	94
57) epichlorohydrin	10.87	57	157684	507.71	ug/L	98
58) n-butyl alcohol	9.75	56	426217	4420.99	ug/L	100
59) carbon tetrachloride	9.14	117	340778	100.27	ug/L	99
60) 1,1-dichloropropene	9.11	75	381091	95.55	ug/L	99
61) hexane	7.52	57	457036	98.15	ug/L	99
62) Tert Amyl alcohol	9.21	73	69755	447.58	ug/L	97
63) benzene	9.35	78	1090507	93.49	ug/L	100
64) iso-octane	9.42	57	1176157	94.68	ug/L	99
65) tert-amyl methyl ether	9.40	87	180074	99.72	ug/L	98
66) heptane	9.56	57	273683	92.80	ug/L	99
67) isopropyl acetate	9.24	61	121922	101.92	ug/L	96
68) 1,2-dichloroethane	9.37	62	349986	93.89	ug/L	100
69) trichloroethene	10.02	95	285074	97.90	ug/L	97
71) ethyl acrylate	9.99	55	379222	100.27	ug/L	100
72) 2-nitropropane	10.75	41	113557	96.77	ug/L	86
73) 2-chloroethyl vinyl ether	10.77	63	946153	482.13	ug/L	99
74) methyl methacrylate	10.25	100	85959	106.93	ug/L	90
75) 1,2-dichloropropane	10.30	63	300409	94.78	ug/L	99
76) dibromomethane	10.41	93	181463	96.94	ug/L	94
77) methylcyclohexane	10.30	83	480668	98.84	ug/L	100
78) bromodichloromethane	10.55	83	393131	104.39	ug/L	100
79) cis-1,3-dichloropropene	11.00	75	520590	103.32	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	577883	444.61	ug/L	96
82) toluene	11.39	92	700703	94.91	ug/L	98
83) 3-methyl-1-butanol	11.08	55	248917	1852.61	ug/L	94
84) trans-1,3-dichloropropene	11.58	75	441509	101.19	ug/L	99
85) ethyl methacrylate	11.55	69	408422	102.12	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	233996	99.64	ug/L	99
87) 2-hexanone	11.97	58	612829	458.81	ug/L	98
89) tetrachloroethene	11.96	164	295245	97.46	ug/L	99
90) 1,3-dichloropropane	12.00	76	426524	91.19	ug/L	95
91) butyl acetate	12.05	56	216196	101.08	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	256300	963.21	ug/L	98
93) dibromochloromethane	12.26	129	336160	118.16	ug/L	100
94) 1,2-dibromoethane	12.43	107	308315	101.42	ug/L	99
95) n-butyl ether	12.88	57	1376448	99.47	ug/L	99
96) chlorobenzene	12.94	112	797384	96.98	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	294892	101.19	ug/L	99
98) ethylbenzene	13.00	91	1298120	94.45	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

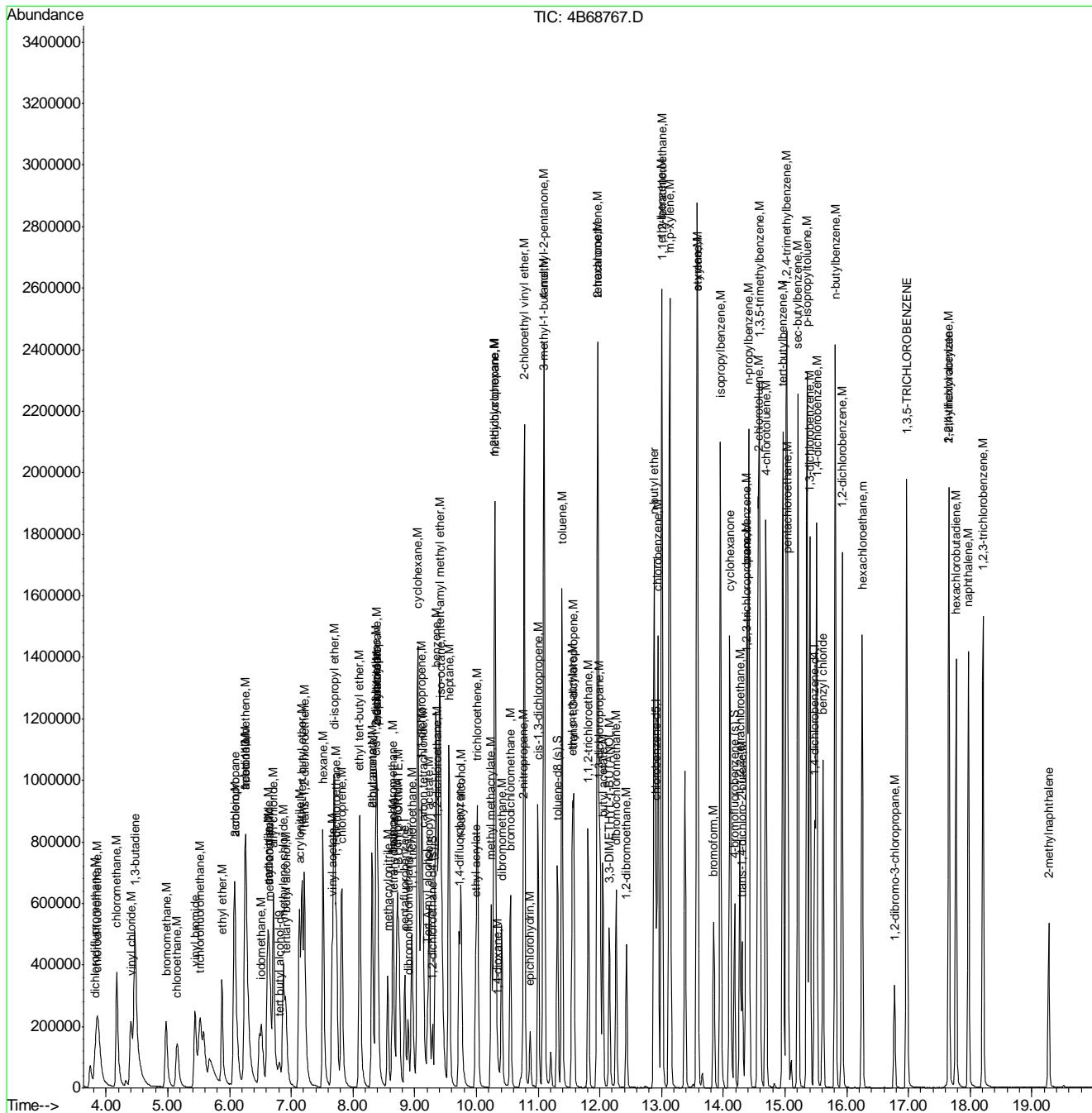
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	1054276	196.41	ug/L	98
100) o-xylene	13.57	106	550614	102.96	ug/L	96
101) styrene	13.59	104	901492	95.71	ug/L	95
102) bromoform	13.84	173	260439	100.11	ug/L	98
104) isopropylbenzene	13.95	105	1431244	93.28	ug/L	99
106) cyclohexanone	14.11	55	662451	868.25	ug/L	100
107) bromobenzene	14.39	156	411623	92.40	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	407913	97.25	ug/L	99
109) trans-1,4-dichloro-2-butene	14.30	53	90911	98.30	ug/L	96
110) 1,2,3-trichloropropane	14.37	110	101594	96.69	ug/L	99
111) n-propylbenzene	14.41	91	1653930	93.49	ug/L	100
113) 2-chlorotoluene	14.57	126	369251	96.13	ug/L	99
114) 4-chlorotoluene	14.69	91	1044075	95.27	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	1174477	93.25	ug/L	99
116) tert-butylbenzene	14.97	119	1109459	95.75	ug/L	99
117) pentachloroethane	15.05	167	243011	99.31	ug/L	98
118) 1,2,4-trimethylbenzene	15.03	105	1212501	94.72	ug/L	99
119) sec-butylbenzene	15.21	105	1667100	97.06	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	773255	92.79	ug/L	100
121) p-isopropyltoluene	15.36	119	1461342	97.91	ug/L	100
122) 1,4-dichlorobenzene	15.51	146	774486	95.77	ug/L	100
123) benzyl chloride	15.61	91	754474	106.82	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	755425	93.49	ug/L	99
126) n-butylbenzene	15.82	92	773040	97.83	ug/L	99
128) 1,2-dibromo-3-chloropropan	16.77	75	74438	105.05	ug/L	99
129) 1,3,5-TRICHLOROBENZENE	16.97	180	689078	96.93	ug/L	100
130) 1,2,4-trichlorobenzene	17.66	180	631538	100.22	ug/L	99
131) hexachlorobutadiene	17.77	225	336802	90.06	ug/L	98
132) naphthalene	17.97	128	1130331	99.04	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	553198	99.66	ug/L	99
134) hexachloroethane	16.25	201	298499	108.49	ug/L	99
135) 2-ethylhexyl acrylate	17.66	70	32504	18.01	ug/L	95
136) 2-methylnaphthalene	19.27	142	302212	111.69	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68767.D
Acq On : 27 Jan 2017 4:53 pm
Operator : Hueanh
Sample : ic2825-100
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 17:14:59 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	112410	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	288696	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	401883	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	371449	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	220768	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.84	168	288696	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	122417	50.21	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 100.42%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	128737	48.75	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 97.50%	
80) toluene-d8 (s)	11.31	98	463561	49.94	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.88%	
105) 4-bromofluorobenzene (s)	14.18	95	180304	49.88	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.76%	

Target Compounds

					Qvalue
2) tertiary butyl alcohol	6.91	59	77268	263.50	ug/L
3) 1,4-dioxane	10.34	88	33348	1311.25	ug/L
7) chlorodifluoromethane	3.85	51	209496	45.88	ug/L
8) dichlorodifluoromethane	3.82	85	211995	53.52	ug/L
10) chloromethane	4.18	52	111269	56.13	ug/L
11) vinyl chloride	4.40	62	270163	51.17	ug/L
12) bromomethane	4.98	94	125410	51.33	ug/L
13) chloroethane	5.16	64	114167	48.46	ug/L
14) vinyl bromide	5.45	106	168139	51.03	ug/L
15) trichlorofluoromethane	5.51	101	236199	52.13	ug/L
16) 1,3-butadiene	4.47	54	193052	44.51	ug/L
19) ethyl ether	5.88	74	83992	51.51	ug/L
20) 2-chloropropane	6.08	39	45231	40.95	ug/L
21) acrolein	6.09	56	295195	451.42	ug/L
22) 1,1-dichloroethene	6.25	96	145101	54.29	ug/L
23) acetone	6.26	58	78944	249.20	ug/L
24) allyl chloride	6.71	76	210302	92.58	ug/L
25) acetonitrile	6.63	40	82534	445.77	ug/L
26) iodomethane	6.48	142	233324	42.43	ug/L
27) carbon disulfide	6.61	76	358470	42.32	ug/L
28) methylene chloride	6.87	84	149093	49.60	ug/L
29) methyl acetate	6.65	74	22841	50.72	ug/L
31) methyl tert butyl ether	7.18	73	797117	97.17	ug/L
32) trans-1,2-dichloroethene	7.22	96	133429	49.57	ug/L
33) di-isopropyl ether	7.70	45	558906	49.04	ug/L
34) 2-butanone	8.31	72	85747	248.60	ug/L
35) 1,1-dichloroethane	7.73	63	271598	49.98	ug/L
36) chloroprene	7.82	53	225876	51.36	ug/L
37) acrylonitrile	7.13	53	284224	245.24	ug/L
38) vinyl acetate	7.66	86	26703	49.75	ug/L
39) ethyl tert-butyl ether	8.11	59	494222	51.13	ug/L
40) ethyl acetate	8.31	45	27023	54.33	ug/L

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) 2,2-dichloropropane	8.39	77	124618	46.23	ug/L	99
42) cis-1,2-dichloroethene	8.37	96	152676	50.76	ug/L	99
43) methylacrylate	8.39	85	21922	50.75	ug/L	97
44) propionitrile	8.39	54	200269	468.87	ug/L	97
45) bromochloromethane	8.65	128	80486	53.52	ug/L	97
46) tetrahydrofuran	8.66	42	48009	47.17	ug/L	98
47) chloroform	8.71	85	158435	48.29	ug/L	98
48) T-BUTYL FORMATE	8.75	59	85792	36.20	ug/L	96
51) freon 113	6.26	151	135431	59.08	ug/L	98
52) methacrylonitrile	8.56	41	100022	46.97	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	186061	48.88	ug/L	99
54) cyclohexane	9.05	84	166031	42.55	ug/L	# 63
57) epichlorohydrin	10.87	57	73315	237.36	ug/L	98
58) n-butyl alcohol	9.75	56	194035	2055.29	ug/L	100
59) carbon tetrachloride	9.14	117	167556	49.64	ug/L	98
60) 1,1-dichloropropene	9.11	75	199149	50.52	ug/L	98
61) hexane	7.52	57	112903	24.47	ug/L	99
62) Tert Amyl alcohol	9.21	73	63682	417.02	ug/L	83
63) benzene	9.35	78	564425	49.06	ug/L	99
64) iso-octane	9.42	57	566184	46.15	ug/L	98
65) tert-amyl methyl ether	9.40	87	95377	53.21	ug/L	93
66) heptane	9.56	57	145554	50.16	ug/L	97
67) isopropyl acetate	9.24	61	61503	51.66	ug/L	96
68) 1,2-dichloroethane	9.37	62	180220	49.00	ug/L	99
69) trichloroethene	10.02	95	149303	51.75	ug/L	98
71) ethyl acrylate	9.99	55	185142	49.29	ug/L	99
72) 2-nitropropane	10.75	41	56765	48.92	ug/L	94
73) 2-chloroethyl vinyl ether	10.77	63	504999	260.12	ug/L	100
74) methyl methacrylate	10.24	100	39697	49.31	ug/L	# 87
75) 1,2-dichloropropane	10.30	63	156369	49.95	ug/L	100
76) dibromomethane	10.41	93	92328	49.83	ug/L	96
77) methylcyclohexane	10.30	83	241908	50.16	ug/L	98
78) bromodichloromethane	10.55	83	199371	53.09	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	265363	52.87	ug/L	98
81) 4-methyl-2-pentanone	11.09	58	294828	231.03	ug/L	99
82) toluene	11.39	92	359760	49.33	ug/L	99
83) 3-methyl-1-butanol	11.08	55	112468	850.05	ug/L	98
84) trans-1,3-dichloropropene	11.57	75	224511	51.76	ug/L	96
85) ethyl methacrylate	11.55	69	200025	50.24	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	118517	50.85	ug/L	98
87) 2-hexanone	11.97	58	303498	231.24	ug/L	100
89) tetrachloroethene	11.96	164	165487	54.17	ug/L	99
90) 1,3-dichloropropane	12.00	76	218328	46.58	ug/L	99
91) butyl acetate	12.05	56	106597	49.23	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	108609	405.36	ug/L	98
93) dibromochloromethane	12.27	129	164600	56.20	ug/L	100
94) 1,2-dibromoethane	12.43	107	153000	49.71	ug/L	100
95) n-butyl ether	12.88	57	701233	50.15	ug/L	100
96) chlorobenzene	12.94	112	408445	49.28	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	149535	50.69	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

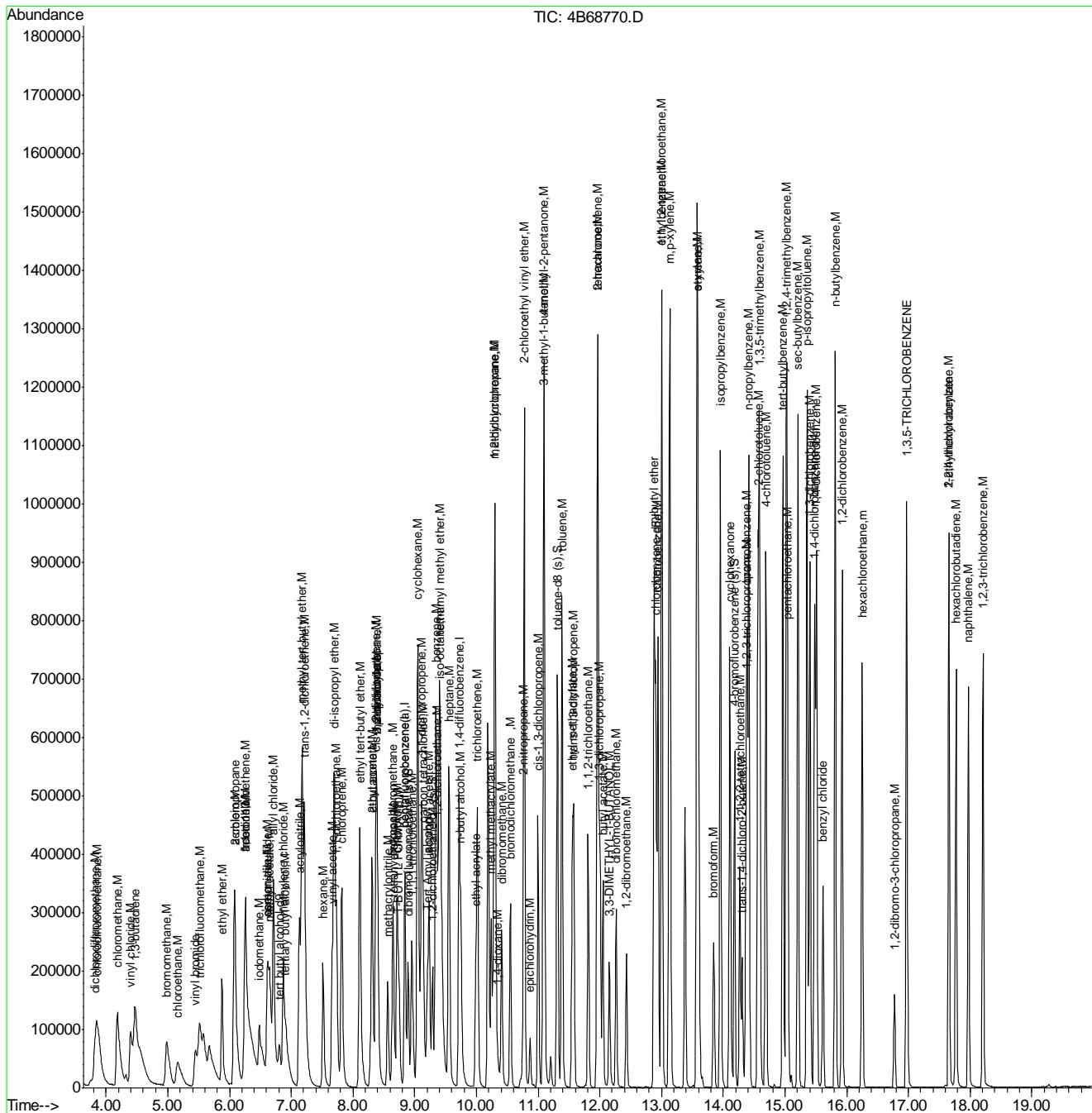
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
98) ethylbenzene	13.00	91	674095	48.78	ug/L	99
99) m,p-xylene	13.13	106	536172	98.97	ug/L	98
100) o-xylene	13.57	106	277637	51.20	ug/L	99
101) styrene	13.59	104	460446	48.56	ug/L	94
102) bromoform	13.84	173	119636	47.92	ug/L	99
104) isopropylbenzene	13.95	105	720187	49.76	ug/L	100
106) cyclohexanone	14.11	55	330790	464.23	ug/L	100
107) bromobenzene	14.39	156	206006	49.12	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	193792	48.82	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	42573	49.53	ug/L	98
110) 1,2,3-trichloropropane	14.37	110	48532	48.84	ug/L	100
111) n-propylbenzene	14.41	91	829669	49.79	ug/L	100
113) 2-chlorotoluene	14.57	126	183133	50.42	ug/L	99
114) 4-chlorotoluene	14.69	91	519508	50.22	ug/L	100
115) 1,3,5-trimethylbenzene	14.59	105	588827	49.61	ug/L	99
116) tert-butylbenzene	14.97	119	555088	50.69	ug/L	99
117) pentachloroethane	15.05	167	104654	45.08	ug/L	98
118) 1,2,4-trimethylbenzene	15.03	105	609579	50.48	ug/L	99
119) sec-butylbenzene	15.21	105	839356	51.66	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	388125	49.50	ug/L	99
121) p-isopropyltoluene	15.36	119	730366	51.67	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	383477	50.21	ug/L	100
123) benzyl chloride	15.61	91	243262	36.00	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	385238	50.62	ug/L	99
126) n-butylbenzene	15.82	92	388561	51.91	ug/L	100
128) 1,2-dibromo-3-chloropropan	16.77	75	35739	52.73	ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.97	180	350338	52.10	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	313178	52.32	ug/L	98
131) hexachlorobutadiene	17.77	225	170593	48.58	ug/L	99
132) naphthalene	17.97	128	542940	50.16	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	270681	51.38	ug/L	98
134) hexachloroethane	16.25	201	143456	54.25	ug/L	99
135) 2-ethylhexyl acrylate	17.66	70	12119	8.03	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68770.D
Acq On : 27 Jan 2017 6:19 pm
Operator : Hueanht
Sample : icv2825-50
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
 Data File : 4B68840.D
 Acq On : 31 Jan 2017 4:10 am
 Operator : Hueanht
 Sample : icv2825-50
 Misc : MS12037,V4B2828,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 31 17:11:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	137634	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	268903	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	379394	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	359007	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	206994	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.84	168	268903	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	118337	52.11	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	104.22%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	134264	54.58	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	109.16%	
80) toluene-d8 (s)	11.31	98	441419	50.38	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.76%	
105) 4-bromofluorobenzene (s)	14.18	95	170984	50.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	100.90%	

Target Compounds				Qvalue
138) Freon 142B		4.11	65	112975 42.55 ug/L 89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

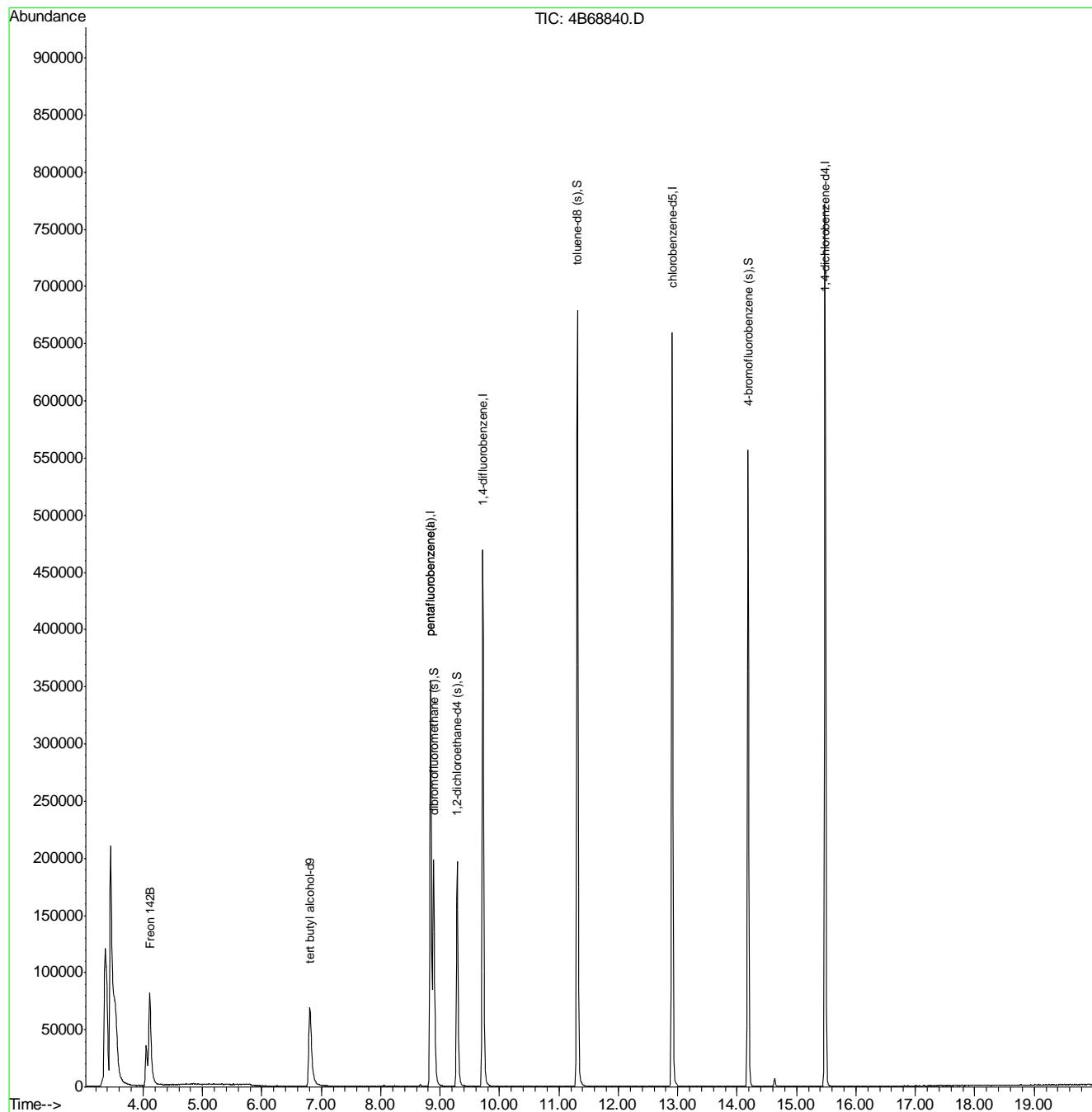
7.7.12

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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68840.D
 Acq On : 31 Jan 2017 4:10 am
 Operator : Hueanht
 Sample : icv2825-50
 Misc : MS12037,V4B2828,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 31 17:11:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69259.D
 Acq On : 14 Feb 2017 9:31 am
 Operator : Hueanht
 Sample : ib
 Misc : MS12448,V4B2850,5,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 10:27:32 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	114841	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	278708	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	387691	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	371165	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215566	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	278708	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	121686	51.70	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	103.40%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	132515	51.98	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	103.96%		
80) toluene-d8 (s)	11.310	98	451705	50.45	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.90%		
105) 4-bromofluorobenzene (s)	14.182	95	176055	49.88	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	99.76%		
Target Compounds						
2) tertiary butyl alcohol	6.901	59	30312	101.18	ug/L	93
3) 1,4-dioxane	10.343	88	13686	526.75	ug/L	97
7) chlorodifluoromethane	3.862	51	109616	24.87	ug/L	95
8) dichlorodifluoromethane	3.821	85	68521	17.92	ug/L	97
10) chloromethane	4.176	52	39317	20.54	ug/L	95
11) vinyl chloride	4.396	62	99776	19.58	ug/L	97
12) bromomethane	4.987	94	50981	21.61	ug/L	99
13) chloroethane	5.170	64	44736	19.67	ug/L	98
14) vinyl bromide	5.458	106	58009	18.24	ug/L	99
15) trichlorofluoromethane	5.510	101	97770	22.35	ug/L	97
16) 1,3-butadiene	4.474	54	80802	19.30	ug/L	100
19) ethyl ether	5.876	74	31550	20.04	ug/L	95
20) 2-chloropropane	6.069	39	19584	18.37	ug/L	90
21) acrolein	6.085	56	113401	179.63	ug/L	99
22) 1,1-dichloroethene	6.253	96	56667	21.96	ug/L	99
23) acetone	6.258	58	26785	87.58	ug/L	91
24) allyl chloride	6.713	76	77891	33.74	ug/L	# 70
25) acetonitrile	6.624	40	37384	209.15	ug/L	93
26) iodomethane	6.483	142	88492	16.67	ug/L	95
27) carbon disulfide	6.608	76	155759	19.05	ug/L	98
28) methylene chloride	6.870	84	60163	20.73	ug/L	97
29) methyl acetate	6.655	74	8074	18.57	ug/L	96
31) methyl tert butyl ether	7.173	73	153955	19.44	ug/L	98
32) trans-1,2-dichloroethene	7.215	96	55955	21.53	ug/L	93
33) di-isopropyl ether	7.691	45	228594	20.78	ug/L	99
34) 2-butanone	8.303	72	29995	90.08	ug/L	# 90
35) 1,1-dichloroethane	7.727	63	112149	21.38	ug/L	98
36) chloroprene	7.816	53	89864	21.16	ug/L	97
37) acrylonitrile	7.131	53	102711	91.80	ug/L	99
38) vinyl acetate	7.659	86	9866	19.04	ug/L	72
39) ethyl tert-butyl ether	8.109	59	185501	19.88	ug/L	98
40) ethyl acetate	8.308	45	9384	19.54	ug/L	83
41) 2,2-dichloropropane	8.392	77	57296	22.02	ug/L	99
42) cis-1,2-dichloroethene	8.366	96	62443	21.50	ug/L	98
43) methylacrylate	8.392	85	7507	18.00	ug/L	# 82
44) propionitrile	8.381	54	78524	190.43	ug/L	82
45) bromochloromethane	8.643	128	31241	21.52	ug/L	97
46) tetrahydrofuran	8.658	42	17505	17.81	ug/L	95
47) chloroform	8.711	85	66927	21.13	ug/L	97
48) T-BUTYL FORMATE	8.737	59	42162	18.43	ug/L	92
51) freon 113	6.253	151	42499	19.20	ug/L	96
52) methacrylonitrile	8.559	41	37807	18.39	ug/L	97
53) 1,1,1-trichloroethane	8.951	97	78035	21.23	ug/L	98
54) cyclohexane	9.051	84	68765	18.26	ug/L	# 60

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
 Data File : 4B69259.D
 Acq On : 14 Feb 2017 9:31 am
 Operator : Hueanht
 Sample : ib
 Misc : MS12448,V4B2850,5,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 10:27:32 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.866	57	27221	91.35	ug/L	97
58) n-butyl alcohol	9.746	56	88768	974.68	ug/L	99
59) carbon tetrachloride	9.134	117	71528	21.97	ug/L	97
60) 1,1-dichloropropene	9.108	75	81286	21.37	ug/L	98
61) hexane	7.513	57	98470	22.12	ug/L	99
62) Tert Amyl alcohol	9.202	73	12769	86.68	ug/L	91
63) benzene	9.344	78	226217	20.38	ug/L	99
64) iso-octane	9.412	57	239182	20.21	ug/L	98
65) tert-amyl methyl ether	9.396	87	33604	19.43	ug/L	90
66) heptane	9.553	57	63081	22.53	ug/L	98
67) isopropyl acetate	9.229	61	19940	17.36	ug/L	94
68) 1,2-dichloroethane	9.370	62	75299	21.22	ug/L	98
69) trichloroethene	10.013	95	60246	21.65	ug/L	97
71) ethyl acrylate	9.987	55	63158	17.43	ug/L	97
72) 2-nitropropane	10.751	41	21714	19.40	ug/L	92
73) 2-chloroethyl vinyl ether	10.771	63	174153	92.99	ug/L	99
74) methyl methacrylate	10.238	100	14278	18.38	ug/L	97
75) 1,2-dichloropropane	10.296	63	65811	21.79	ug/L	98
76) dibromomethane	10.405	93	36377	20.35	ug/L	95
77) methylcyclohexane	10.296	83	98490	21.17	ug/L	98
78) bromodichloromethane	10.547	83	82183	22.68	ug/L	99
79) cis-1,3-dichloropropene	10.996	75	104215	21.52	ug/L	94
81) 4-methyl-2-pentanone	11.091	58	110316	89.61	ug/L	92
82) toluene	11.389	92	140963	20.04	ug/L	98
83) 3-methyl-1-butanol	11.085	55	54026	423.29	ug/L	96
84) trans-1,3-dichloropropene	11.577	75	90622	21.66	ug/L	99
85) ethyl methacrylate	11.551	69	70572	18.37	ug/L	96
86) 1,1,2-trichloroethane	11.812	83	46236	20.57	ug/L	97
87) 2-hexanone	11.969	58	111913	88.39	ug/L	92
89) tetrachloroethylene	11.959	164	57833	18.94	ug/L	98
90) 1,3-dichloropropane	12.001	76	88258	18.84	ug/L	94
91) butyl acetate	12.048	56	38729	17.90	ug/L	100
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	57446	214.57	ug/L	96
93) dibromochloromethane	12.262	129	64863	22.16	ug/L	100
94) 1,2-dibromoethane	12.429	107	56942	18.51	ug/L	98
95) n-butyl ether	12.879	57	265730	19.02	ug/L	98
96) chlorobenzene	12.937	112	162733	19.65	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.010	131	60941	20.67	ug/L	97
98) ethylbenzene	13.000	91	278460	20.17	ug/L	99
99) m,p-xylene	13.130	106	212777	39.31	ug/L	95
100) o-xylene	13.570	106	110643	20.42	ug/L	97
101) styrene	13.585	104	184633	19.49	ug/L	97
102) bromoform	13.842	173	45482	18.72	ug/L	97
104) isopropylbenzene	13.951	105	290986	20.59	ug/L	99
106) cyclohexanone	14.103	55	105992	152.34	ug/L	98
107) bromobenzene	14.386	156	82684	20.19	ug/L	98
108) 1,1,2,2-tetrachloroethane	14.265	83	75061	19.37	ug/L	97
109) trans-1,4-dichloro-2-b...	14.302	53	15406	19.39	ug/L	89
110) 1,2,3-trichloropropene	14.365	110	18511	19.08	ug/L	95
111) n-propylbenzene	14.412	91	351898	21.63	ug/L	99
113) 2-chlorotoluene	14.563	126	74408	20.98	ug/L	92
114) 4-chlorotoluene	14.689	91	212502	21.04	ug/L	98
115) 1,3,5-trimethylbenzene	14.584	105	243182	20.98	ug/L	99
116) tert-butylbenzene	14.966	119	225537	21.09	ug/L	98
117) pentachloroethane	15.045	167	50959	22.48	ug/L	99
118) 1,2,4-trimethylbenzene	15.024	105	252271	21.40	ug/L	99
119) sec-butylbenzene	15.212	105	340593	21.47	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	161943	21.15	ug/L	99
121) p-isopropyltoluene	15.358	119	299797	21.72	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	154009	20.65	ug/L	99
123) benzyl chloride	15.615	91	134203	20.34	ug/L	98
124) 1,2-dichlorobenzene	15.923	146	155812	20.97	ug/L	98
126) n-butylbenzene	15.813	92	160486	21.96	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\

Data File : 4B69259.D

Acq On : 14 Feb 2017 9:31 am

Operator : Hueanht

Sample : ib

Misc : MS12448,V4B2850,5,,,,1

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 10:27:32 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

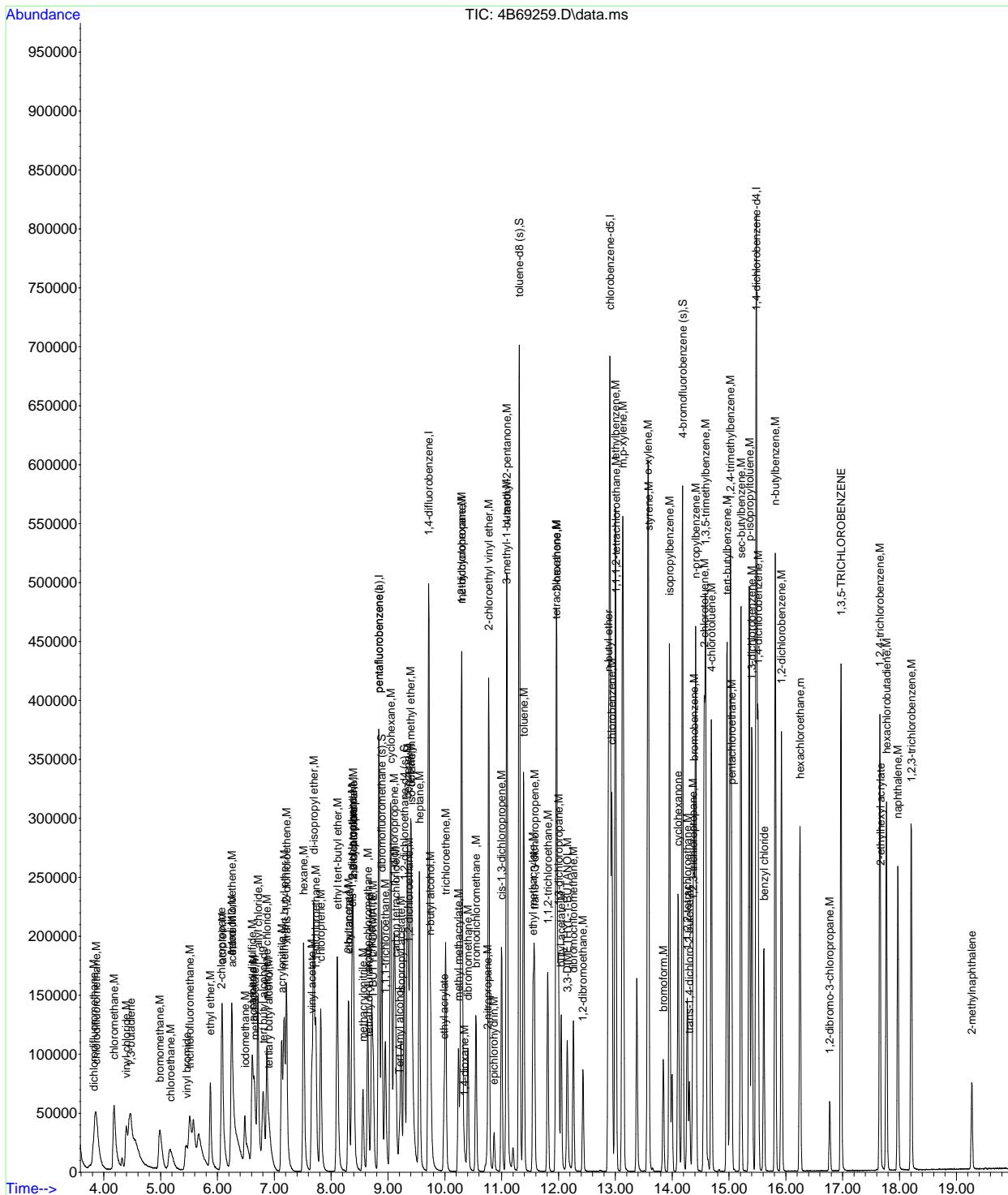
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.771	75	13537	20.46	ug/L	87
129) 1,3,5-TRICHLOROBENZENE	16.969	180	145331	22.13	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	122323	20.93	ug/L	100
131) hexachlorobutadiene	17.770	225	72359	21.10	ug/L	99
132) naphthalene	17.968	128	201301	19.05	ug/L	100
133) 1,2,3-trichlorobenzene	18.209	180	102598	19.94	ug/L	98
134) hexachloroethane	16.248	201	57388	22.23	ug/L	99
135) 2-ethylhexyl acrylate	17.665	70	4874	4.09	ug/L	92
136) 2-methylnaphthalene	19.271	142	40354	15.78	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2850-51\
Data File : 4B69259.D
Acq On : 14 Feb 2017 9:31 am
Operator : Hueanht
Sample : ib
Misc : MS12448,V4B2850,5,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 15 10:27:32 2017
Quant Method : C:\MSDCHEM1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:50 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69310.D
 Acq On : 15 Feb 2017 11:00 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 16 12:13:50 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	140656	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	302122	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	418432	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	392838	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	229784	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	302122	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	130526	51.16	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 102.32%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	139670	50.54	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 101.08%		
80) toluene-d8 (s)	11.310	98	480675	49.74	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.48%		
105) 4-bromofluorobenzene (s)	14.182	95	187537	49.84	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 99.68%		
Target Compounds						
				Qvalue		
2) tertiary butyl alcohol	6.906	59	33696	91.83	ug/L	98
3) 1,4-dioxane	10.343	88	16685	524.31	ug/L	96
7) chlorodifluoromethane	3.873	51	84719	17.73	ug/L	95
8) dichlorodifluoromethane	3.826	85	70512	17.01	ug/L	99
10) chloromethane	4.171	52	32311	15.57	ug/L	99
11) vinyl chloride	4.396	62	88422	16.00	ug/L	98
12) bromomethane	4.976	94	51953	20.32	ug/L	98
13) chloroethane	5.154	64	47542	19.28	ug/L	96
14) vinyl bromide	5.442	106	61452	17.82	ug/L	100
15) trichlorofluoromethane	5.525	101	83627	17.64	ug/L	97
16) 1,3-butadiene	4.464	54	108266	23.85	ug/L	99
19) ethyl ether	5.876	74	33337	19.54	ug/L	90
20) 2-chloropropane	6.080	39	21695	18.77	ug/L	89
21) acrolein	6.085	56	122766	179.39	ug/L	95
22) 1,1-dichloroethene	6.252	96	53061	18.97	ug/L	98
23) acetone	6.258	58	30558	92.17	ug/L	97
24) allyl chloride	6.713	76	40948	16.00	ug/L	91
25) acetonitrile	6.619	40	38583	199.13	ug/L	93
26) iodomethane	6.483	142	115120	20.00	ug/L	97
27) carbon disulfide	6.613	76	182252	20.56	ug/L	99
28) methylene chloride	6.875	84	61921	19.68	ug/L	94
29) methyl acetate	6.650	74	8936	18.96	ug/L	# 82
31) methyl tert butyl ether	7.173	73	161174	18.77	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	55655	19.76	ug/L	98
33) di-isopropyl ether	7.696	45	220809	18.51	ug/L	99
34) 2-butanone	8.308	72	36095	100.00	ug/L	92
35) 1,1-dichloroethane	7.733	63	110931	19.51	ug/L	98
36) chloroprene	7.816	53	84143	18.28	ug/L	97
37) acrylonitrile	7.131	53	117723	97.06	ug/L	100
38) vinyl acetate	7.665	86	10547	18.78	ug/L	98
39) ethyl tert-butyl ether	8.109	59	183362	18.13	ug/L	99
40) ethyl acetate	8.313	45	10296	19.78	ug/L	65
41) 2,2-dichloropropane	8.397	77	60426	21.42	ug/L	96
42) cis-1,2-dichloroethene	8.371	96	63470	20.16	ug/L	96
43) methylacrylate	8.392	85	8789	19.44	ug/L	93
44) propionitrile	8.386	54	89260	199.69	ug/L	93
45) bromochloromethane	8.643	128	32324	20.54	ug/L	97
46) tetrahydrofuran	8.658	42	19421	18.23	ug/L	97
47) chloroform	8.711	85	65732	19.14	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69310.D
 Acq On : 15 Feb 2017 11:00 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 16 12:13:50 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.737	59	45150	18.21	ug/L	92
51) freon 113	6.252	151	43637	18.19	ug/L	98
52) methacrylonitrile	8.559	41	40840	18.33	ug/L	97
53) 1,1,1-trichloroethane	8.957	97	78375	19.67	ug/L	98
54) cyclohexane	9.056	84	75240	18.43	ug/L	86
57) epichlorohydrin	10.866	57	31006	96.41	ug/L	96
58) n-butyl alcohol	9.746	56	101931	1036.99	ug/L	97
59) carbon tetrachloride	9.134	117	69830	19.87	ug/L	94
60) 1,1-dichloropropene	9.108	75	77517	18.89	ug/L	99
61) hexane	7.518	57	87819	18.28	ug/L	99
62) Tert Amyl alcohol	9.208	73	15104	95.00	ug/L	93
63) benzene	9.344	78	225483	18.82	ug/L	99
64) iso-octane	9.417	57	237255	18.57	ug/L	99
65) tert-amyl methyl ether	9.396	87	35599	19.08	ug/L	99
66) heptane	9.553	57	52661	17.43	ug/L	100
67) isopropyl acetate	9.234	61	22706	18.32	ug/L	93
68) 1,2-dichloroethane	9.370	62	76366	19.94	ug/L	100
69) trichloroethene	10.013	95	59741	19.89	ug/L	96
71) ethyl acrylate	9.987	55	70366	17.99	ug/L	98
72) 2-nitropropane	10.750	41	22863	18.92	ug/L	86
73) 2-chloroethyl vinyl ether	10.771	63	188563	93.28	ug/L	99
74) methyl methacrylate	10.243	100	15855	18.92	ug/L	96
75) 1,2-dichloropropane	10.301	63	65232	20.01	ug/L	98
76) dibromomethane	10.405	93	38090	19.74	ug/L	98
77) methylcyclohexane	10.295	83	91771	18.28	ug/L	98
78) bromodichloromethane	10.546	83	81162	20.76	ug/L	99
79) cis-1,3-dichloropropene	11.002	75	102320	19.58	ug/L	97
81) 4-methyl-2-pentanone	11.090	58	124640	93.81	ug/L	96
82) toluene	11.389	92	140141	18.46	ug/L	98
83) 3-methyl-1-butanol	11.085	55	61261	444.71	ug/L	95
84) trans-1,3-dichloropropene	11.577	75	87166	19.30	ug/L	97
85) ethyl methacrylate	11.551	69	75309	18.17	ug/L	99
86) 1,1,2-trichloroethane	11.812	83	47377	19.53	ug/L	97
87) 2-hexanone	11.969	58	129942	95.09	ug/L	95
89) tetrachloroethene	11.959	164	58290	18.04	ug/L	97
90) 1,3-dichloropropane	12.001	76	91519	18.46	ug/L	99
91) butyl acetate	12.048	56	41110	17.95	ug/L	97
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	58939	208.00	ug/L	96
93) dibromochloromethane	12.262	129	63413	20.47	ug/L	98
94) 1,2-dibromoethane	12.429	107	60503	18.59	ug/L	99
95) n-butyl ether	12.879	57	254161	17.19	ug/L	98
96) chlorobenzene	12.937	112	161225	18.39	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.010	131	60102	19.27	ug/L	98
98) ethylbenzene	12.999	91	267574	18.31	ug/L	97
99) m,p-xylene	13.135	106	209014	36.48	ug/L	100
100) o-xylene	13.570	106	107473	18.74	ug/L	97
101) styrene	13.585	104	182320	18.18	ug/L	97
102) bromoform	13.847	173	43651	17.05	ug/L	95
104) isopropylbenzene	13.951	105	279861	18.58	ug/L	99
106) cyclohexanone	14.108	55	120295	162.20	ug/L	99
107) bromobenzene	14.385	156	82553	18.91	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	79000	19.12	ug/L	97
110) 1,2,3-trichloropropene	14.365	110	19932	19.27	ug/L	100
111) n-propylbenzene	14.412	91	331410	19.11	ug/L	99
113) 2-chlorotoluene	14.563	126	71263	18.85	ug/L	98
114) 4-chlorotoluene	14.689	91	207424	19.27	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	234521	18.98	ug/L	97
116) tert-butylbenzene	14.966	119	212325	18.63	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69310.D
 Acq On : 15 Feb 2017 11:00 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 16 12:13:50 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

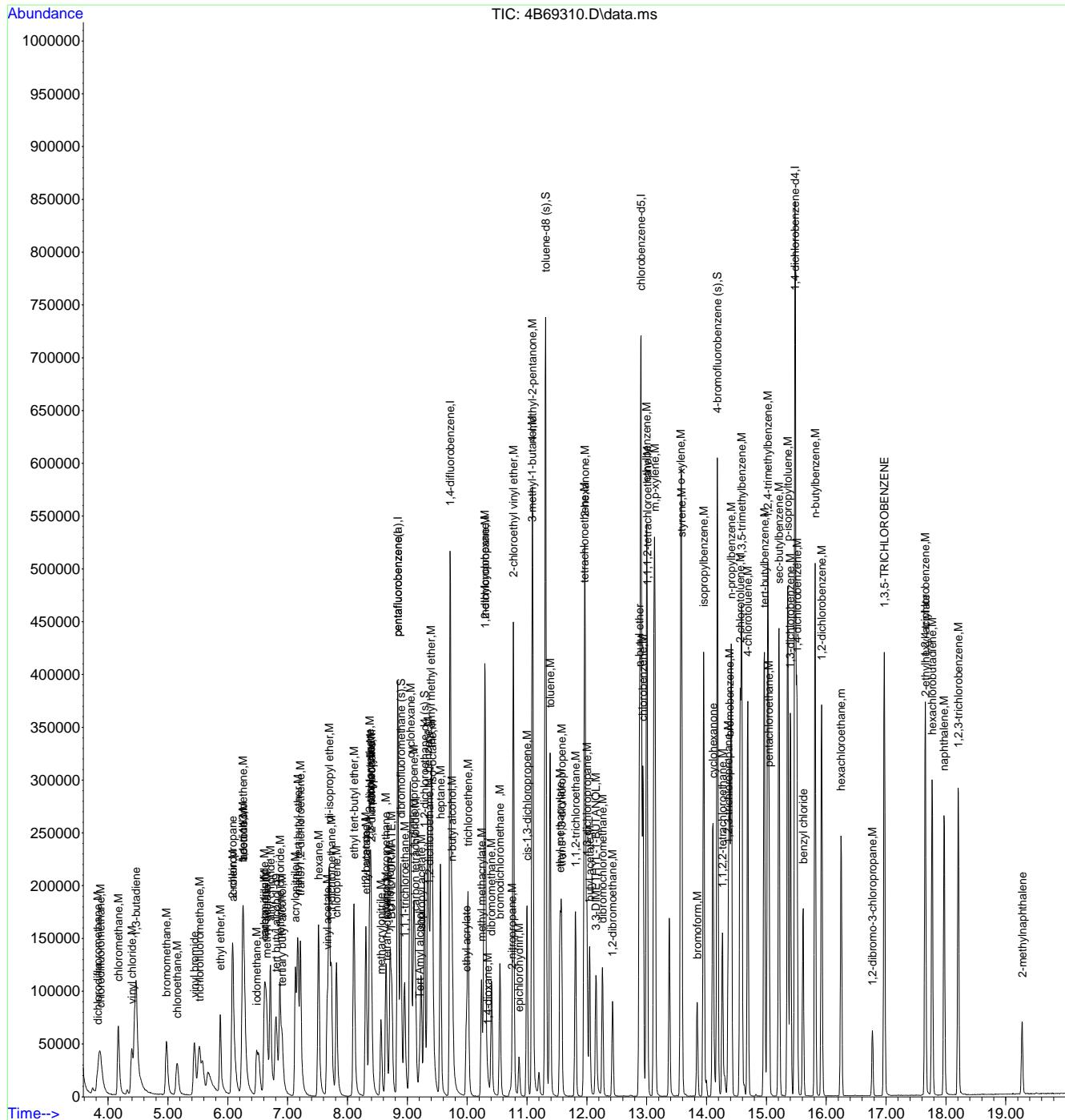
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117) pentachloroethane	15.044	167	49464	20.47	ug/L	98
118) 1,2,4-trimethylbenzene	15.024	105	245404	19.53	ug/L	98
119) sec-butylbenzene	15.212	105	320717	18.96	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	158443	19.41	ug/L	98
121) p-isopropyltoluene	15.358	119	284797	19.36	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	153094	19.26	ug/L	97
123) benzyl chloride	15.615	91	125627	17.86	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	156015	19.70	ug/L	99
126) n-butylbenzene	15.813	92	151429	19.44	ug/L	96
128) 1,2-dibromo-3-chloropr...	16.770	75	14029	19.89	ug/L	93
129) 1,3,5-TRICHLOROBENZENE	16.969	180	142698	20.39	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	121109	19.44	ug/L	100
131) hexachlorobutadiene	17.769	225	70043	19.16	ug/L	97
132) naphthalene	17.968	128	209565	18.60	ug/L	99
133) 1,2,3-trichlorobenzene	18.209	180	102832	18.75	ug/L	98
134) hexachloroethane	16.247	201	47779	17.36	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	3878	3.39	ug/L #	81
136) 2-methylnaphthalene	19.276	142	39075	14.33	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
Data File : 4B69310.D
Acq On : 15 Feb 2017 11:00 am
Operator : Hueanh
Sample : cc2825-20
Misc : MS12524,V4B2853,5,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 16 12:13:50 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69311.D
 Acq On : 15 Feb 2017 11:28 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 16 12:13:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	142502	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	302451	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.720	114	419357	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	396909	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	229250	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	302451	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	130764	51.20	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 102.40%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	141416	51.11	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 102.22%		
80) toluene-d8 (s)	11.310	98	481689	49.73	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.46%		
105) 4-bromofluorobenzene (s)	14.181	95	188939	50.33	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 100.66%		
Target Compounds						
				Qvalue		
2) tertiary butyl alcohol	6.906	59	35541	95.61	ug/L	98
3) 1,4-dioxane	10.348	88	15606	484.05	ug/L	96
7) chlorodifluoromethane	3.867	51	82939	17.34	ug/L	96
8) dichlorodifluoromethane	3.831	85	70726	17.04	ug/L	99
10) chloromethane	4.171	52	32657	15.72	ug/L	95
11) vinyl chloride	4.396	62	88074	15.92	ug/L	98
12) bromomethane	4.976	94	51649	20.18	ug/L	96
13) chloroethane	5.154	64	46946	19.02	ug/L	97
14) vinyl bromide	5.447	106	62167	18.01	ug/L	99
15) trichlorofluoromethane	5.525	101	82210	17.32	ug/L	97
16) 1,3-butadiene	4.469	54	109982	24.20	ug/L	99
19) ethyl ether	5.876	74	34870	20.41	ug/L	97
20) 2-chloropropane	6.080	39	21806	18.85	ug/L	86
21) acrolein	6.085	56	129523	189.06	ug/L	100
22) 1,1-dichloroethene	6.252	96	53180	18.99	ug/L	99
23) acetone	6.258	58	31332	94.40	ug/L	92
24) allyl chloride	6.713	76	39708	15.49	ug/L	95
25) acetonitrile	6.629	40	40072	206.59	ug/L	94
26) iodomethane	6.482	142	115499	20.05	ug/L	97
27) carbon disulfide	6.613	76	185054	20.85	ug/L	98
28) methylene chloride	6.869	84	61681	19.59	ug/L	99
29) methyl acetate	6.650	74	9871	20.92	ug/L	94
31) methyl tert butyl ether	7.173	73	165369	19.24	ug/L	97
32) trans-1,2-dichloroethene	7.215	96	55476	19.67	ug/L	96
33) di-isopropyl ether	7.696	45	222008	18.59	ug/L	99
34) 2-butanone	8.308	72	37022	102.45	ug/L	97
35) 1,1-dichloroethane	7.732	63	111524	19.59	ug/L	99
36) chloroprene	7.816	53	84147	18.26	ug/L	97
37) acrylonitrile	7.131	53	121539	100.10	ug/L	99
38) vinyl acetate	7.664	86	10987	19.54	ug/L	82
39) ethyl tert-butyl ether	8.109	59	185497	18.32	ug/L	99
40) ethyl acetate	8.313	45	10387	19.94	ug/L	84
41) 2,2-dichloropropane	8.397	77	60150	21.30	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	63752	20.23	ug/L	94
43) methylacrylate	8.391	85	9054	20.01	ug/L	92
44) propionitrile	8.386	54	91863	205.29	ug/L	91
45) bromochloromethane	8.643	128	32612	20.70	ug/L	96
46) tetrahydrofuran	8.658	42	21571	20.23	ug/L	96
47) chloroform	8.716	85	67333	19.59	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69311.D
 Acq On : 15 Feb 2017 11:28 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 16 12:13:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.742	59	46291	18.64	ug/L	92
51) freon 113	6.263	151	44004	18.32	ug/L	96
52) methacrylonitrile	8.559	41	42122	18.88	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	78841	19.77	ug/L	97
54) cyclohexane	9.056	84	76857	18.80	ug/L #	77
57) epichlorohydrin	10.871	57	32314	100.26	ug/L	96
58) n-butyl alcohol	9.751	56	105389	1069.80	ug/L	98
59) carbon tetrachloride	9.134	117	70418	19.99	ug/L	97
60) 1,1-dichloropropene	9.108	75	78728	19.14	ug/L	98
61) hexane	7.518	57	87705	18.21	ug/L	96
62) Tert Amyl alcohol	9.207	73	15872	99.61	ug/L	93
63) benzene	9.343	78	227170	18.92	ug/L	99
64) iso-octane	9.417	57	238863	18.66	ug/L	99
65) tert-amyl methyl ether	9.401	87	36719	19.63	ug/L	98
66) heptane	9.553	57	53077	17.53	ug/L	99
67) isopropyl acetate	9.228	61	23349	18.79	ug/L	98
68) 1,2-dichloroethane	9.370	62	78088	20.34	ug/L	98
69) trichloroethene	10.013	95	60693	20.16	ug/L	98
71) ethyl acrylate	9.987	55	73951	18.87	ug/L	99
72) 2-nitropropane	10.750	41	23682	19.56	ug/L #	71
73) 2-chloroethyl vinyl ether	10.771	63	190870	94.22	ug/L	100
74) methyl methacrylate	10.243	100	16584	19.74	ug/L #	89
75) 1,2-dichloropropane	10.301	63	66622	20.40	ug/L	97
76) dibromomethane	10.405	93	38634	19.98	ug/L	98
77) methylcyclohexane	10.301	83	91604	18.20	ug/L	98
78) bromodichloromethane	10.546	83	81958	20.91	ug/L	100
79) cis-1,3-dichloropropene	11.001	75	103624	19.78	ug/L	99
81) 4-methyl-2-pentanone	11.095	58	132758	99.69	ug/L	96
82) toluene	11.388	92	140724	18.49	ug/L	100
83) 3-methyl-1-butanol	11.085	55	62898	455.59	ug/L	98
84) trans-1,3-dichloropropene	11.577	75	88024	19.45	ug/L	99
85) ethyl methacrylate	11.551	69	78709	18.95	ug/L	99
86) 1,1,2-trichloroethane	11.812	83	48240	19.84	ug/L	99
87) 2-hexanone	11.969	58	137330	100.27	ug/L	94
89) tetrachloroethene	11.959	164	60226	18.45	ug/L	97
90) 1,3-dichloropropane	12.000	76	93654	18.70	ug/L	98
91) butyl acetate	12.047	56	42664	18.44	ug/L	91
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	61071	213.31	ug/L	97
93) dibromochloromethane	12.262	129	64953	20.76	ug/L	98
94) 1,2-dibromoethane	12.429	107	62547	19.02	ug/L	96
95) n-butyl ether	12.879	57	259894	17.39	ug/L	98
96) chlorobenzene	12.937	112	162976	18.40	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.010	131	60667	19.25	ug/L	97
98) ethylbenzene	12.999	91	270312	18.31	ug/L	99
99) m,p-xylene	13.130	106	211520	36.54	ug/L	93
100) o-xylene	13.569	106	109803	18.95	ug/L	95
101) styrene	13.585	104	186325	18.39	ug/L	97
102) bromoform	13.847	173	44627	17.24	ug/L	96
104) isopropylbenzene	13.951	105	281869	18.76	ug/L	98
106) cyclohexanone	14.108	55	122696	165.82	ug/L	98
107) bromobenzene	14.385	156	84602	19.42	ug/L	97
108) 1,1,2,2-tetrachloroethane	14.265	83	82752	20.08	ug/L	97
110) 1,2,3-trichloropropane	14.364	110	20418	19.79	ug/L	90
111) n-propylbenzene	14.411	91	338754	19.58	ug/L	98
113) 2-chlorotoluene	14.563	126	72825	19.31	ug/L	96
114) 4-chlorotoluene	14.689	91	210926	19.64	ug/L	99
115) 1,3,5-trimethylbenzene	14.589	105	236706	19.20	ug/L	99
116) tert-butylbenzene	14.966	119	216839	19.07	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69311.D
 Acq On : 15 Feb 2017 11:28 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 16 12:13:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

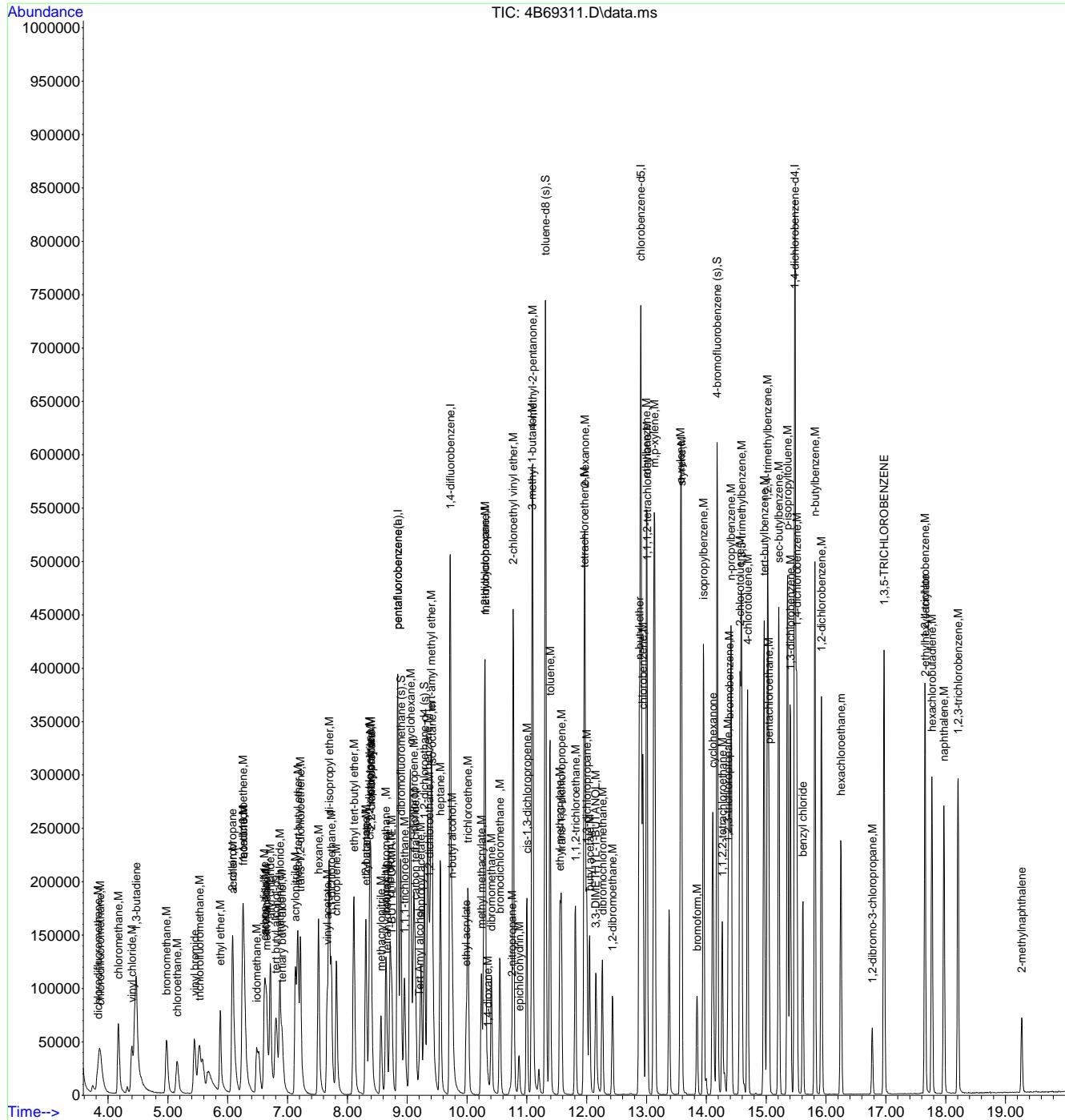
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
117) pentachloroethane	15.044	167	50634	21.00	ug/L	99
118) 1,2,4-trimethylbenzene	15.023	105	248963	19.85	ug/L	97
119) sec-butylbenzene	15.212	105	326556	19.35	ug/L	100
120) 1,3-dichlorobenzene	15.405	146	160507	19.71	ug/L	99
121) p-isopropyltoluene	15.358	119	287726	19.60	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	154385	19.46	ug/L	99
123) benzyl chloride	15.614	91	128535	18.32	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	157911	19.98	ug/L	99
126) n-butylbenzene	15.813	92	152363	19.60	ug/L	98
128) 1,2-dibromo-3-chloropr...	16.776	75	14526	20.64	ug/L	92
129) 1,3,5-TRICHLOROBENZENE	16.969	180	142440	20.40	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	123409	19.86	ug/L	99
131) hexachlorobutadiene	17.769	225	69675	19.11	ug/L	98
132) naphthalene	17.973	128	217127	19.32	ug/L	99
133) 1,2,3-trichlorobenzene	18.209	180	106157	19.40	ug/L	98
134) hexachloroethane	16.247	201	47101	17.15	ug/L	99
135) 2-ethylhexyl acrylate	17.659	70	3536	3.21	ug/L #	77
136) 2-methylnaphthalene	19.270	142	39938	14.68	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
Data File : 4B69311.D
Acq On : 15 Feb 2017 11:28 am
Operator : Hueanht
Sample : cc2825-20
Misc : MS12524,V4B2853,5,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 16 12:13:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update: Tue Jan 31 16:58:58 2017
Response via: Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69312.D
 Acq On : 15 Feb 2017 12:02 pm
 Operator : Hueanh
 Sample : cc2825-0.5
 Misc : MS12524,V4B2853,5,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 16 12:15:53 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	156257	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	322001	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	437141	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	410658	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.484	152	229690	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	322001	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	137432	50.54	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	101.08%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	149955	50.91	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	101.82%	
80) toluene-d8 (s)	11.310	98	503020	49.82	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.64%	
105) 4-bromofluorobenzene (s)	14.181	95	192736	51.24	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.48%	
<hr/>						
Target Compounds				Qvalue		
11) vinyl chloride	4.396	62	2241	0.38	ug/L	83
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7716

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69312.D

Acq On : 15 Feb 2017 12:02 pm

Operator : Hueanh

Sample : cc2825-0.5

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 8 Sample Multiplier: 1

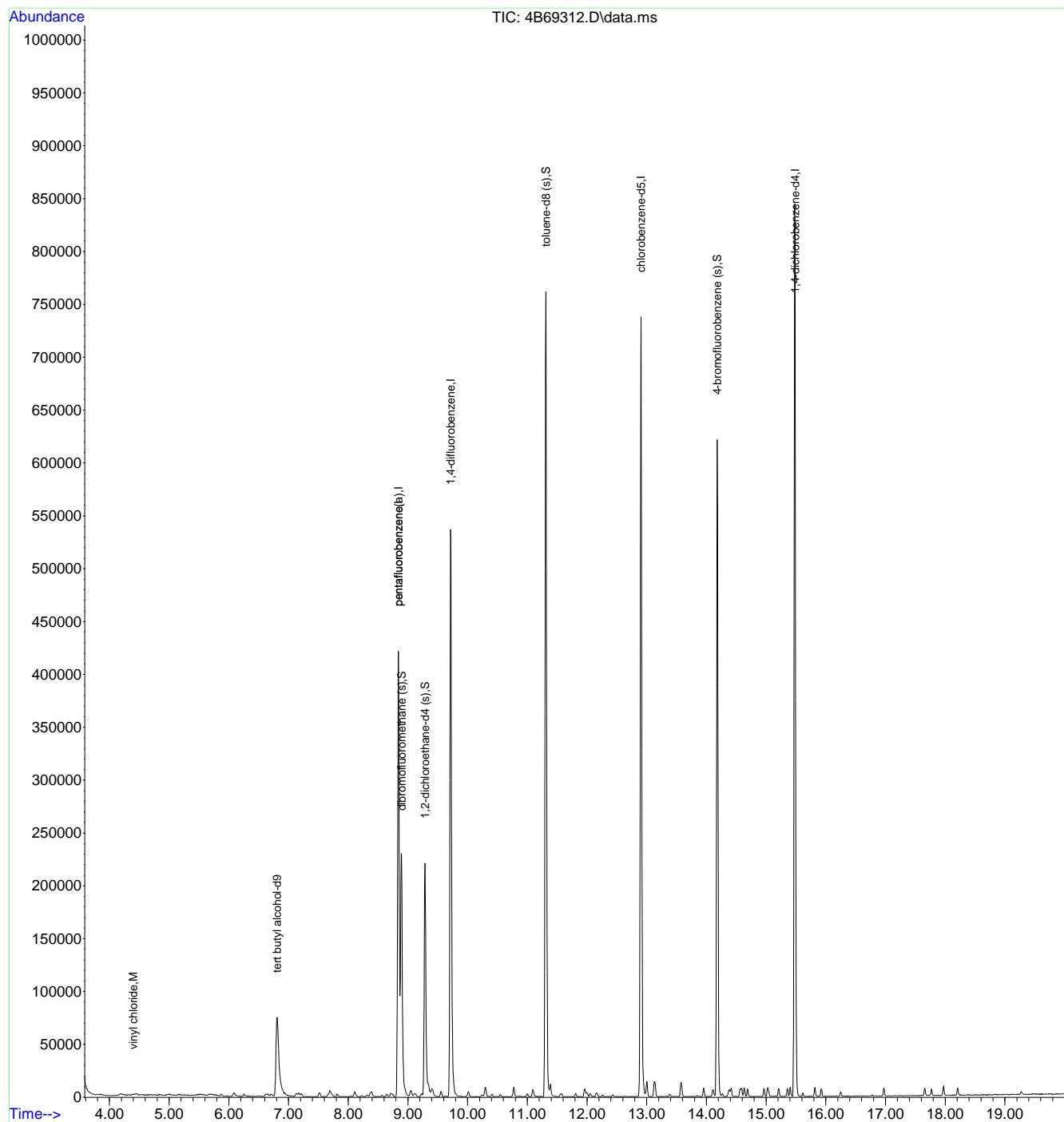
Quant Time: Feb 16 12:15:53 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69313.D

Acq On : 15 Feb 2017 12:30 pm

Operator : Hueanhht

Sample : cc2825-1

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 16 12:18:35 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
<hr/>						
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	163181	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	321954	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	438830	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	413519	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	235005	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	321954	50.00	ug/L	# 0.00
<hr/>						
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	138837	51.06	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	102.12%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	152225	51.69	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	103.38%	
80) toluene-d8 (s)	11.310	98	509113	50.23	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.46%	
105) 4-bromofluorobenzene (s)	14.181	95	196371	51.03	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.06%	
<hr/>						
Target Compounds						
10) chloromethane	4.181	52	1991	0.90	ug/L	# 56
<hr/>						

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
 Data File : 4B69313.D

Acq On : 15 Feb 2017 12:30 pm

Operator : Hueanh

Sample : cc2825-1

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 9 Sample Multiplier: 1

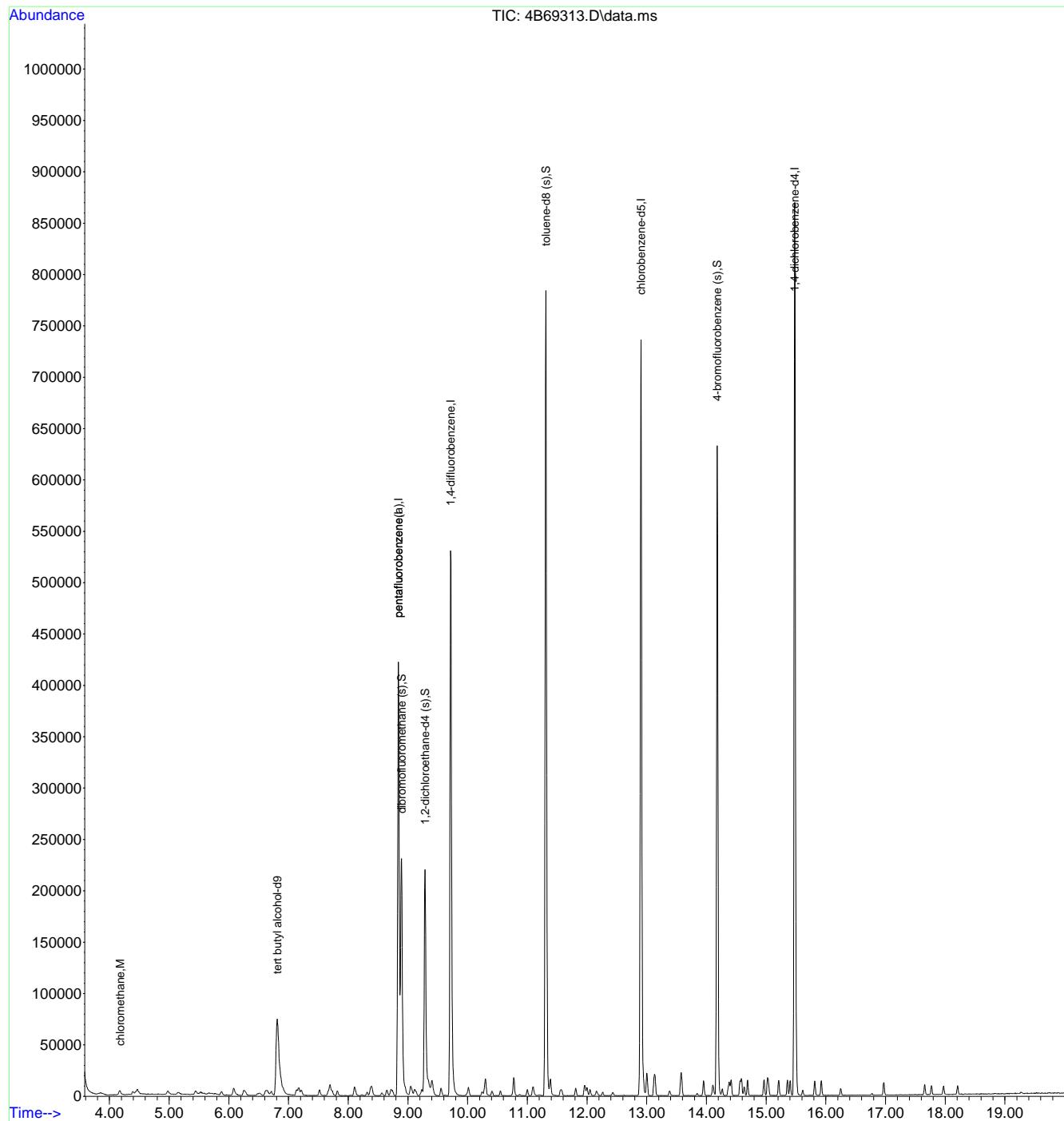
Quant Time: Feb 16 12:18:35 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69333.D

Acq On : 15 Feb 2017 9:35 pm

Operator : Hueanh

Sample : cc2825-50

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 16 09:06:06 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

7.7.18

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Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	126845	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	278579	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	397084	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	371959	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	226170	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	278579	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	123433	52.47	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 104.94%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	134039	52.60	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 105.20%		
80) toluene-d8 (s)	11.310	98	460117	50.17	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 100.34%		
105) 4-bromofluorobenzene (s)	14.181	95	184608	49.85	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 99.70%		
Target Compounds						
				Qvalue		
2) tertiary butyl alcohol	6.911	59	85462	258.27	ug/L	98
3) 1,4-dioxane	10.342	88	35216	1227.13	ug/L	99
7) chlorodifluoromethane	3.867	51	233567	53.01	ug/L	99
8) dichlorodifluoromethane	3.826	85	177942	46.55	ug/L	97
10) chloromethane	4.171	52	85508	44.70	ug/L	97
11) vinyl chloride	4.396	62	230628	45.27	ug/L	99
12) bromomethane	4.976	94	129480	54.92	ug/L	99
13) chloroethane	5.154	64	120869	53.17	ug/L	98
14) vinyl bromide	5.447	106	160689	50.54	ug/L	99
15) trichlorofluoromethane	5.531	101	215545	49.30	ug/L	96
16) 1,3-butadiene	4.438	54	50583	12.09	ug/L	99
19) ethyl ether	5.876	74	80764	51.33	ug/L	94
20) 2-chloropropane	6.075	39	49922	46.84	ug/L	89
21) acrolein	6.085	56	316560	501.67	ug/L	99
22) 1,1-dichloroethene	6.252	96	130865	50.75	ug/L	99
23) acetone	6.263	58	60743	198.71	ug/L	92
24) allyl chloride	6.713	76	108811	47.77	ug/L	97
25) acetonitrile	6.624	40	98765	552.81	ug/L	96
26) iodomethane	6.509	142	271932	51.25	ug/L	99
27) carbon disulfide	6.619	76	438559	53.65	ug/L	99
28) methylene chloride	6.870	84	150799	51.99	ug/L	99
29) methyl acetate	6.650	74	23347	53.72	ug/L	# 86
31) methyl tert butyl ether	7.173	73	385353	48.68	ug/L	100
32) trans-1,2-dichloroethene	7.215	96	131499	50.62	ug/L	97
33) di-isopropyl ether	7.696	45	539515	49.06	ug/L	99
34) 2-butanone	8.308	72	79903	240.07	ug/L	93
35) 1,1-dichloroethane	7.733	63	262781	50.11	ug/L	100
36) chloroprene	7.816	53	215438	50.76	ug/L	99
37) acrylonitrile	7.131	53	289704	259.04	ug/L	100
38) vinyl acetate	7.659	86	27389	52.88	ug/L	98
39) ethyl tert-butyl ether	8.109	59	459180	49.23	ug/L	98
40) ethyl acetate	8.308	45	25502	53.14	ug/L	82
41) 2,2-dichloropropane	8.392	77	126941	48.80	ug/L	97
42) cis-1,2-dichloroethene	8.371	96	149234	51.42	ug/L	100
43) methylacrylate	8.392	85	21945	52.65	ug/L	98
44) propionitrile	8.386	54	212271	515.02	ug/L	96
45) bromochloromethane	8.648	128	78281	53.94	ug/L	90
46) tetrahydrofuran	8.658	42	49948	50.85	ug/L	99
47) chloroform	8.716	85	157135	49.63	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B6933.D

Acq On : 15 Feb 2017 9:35 pm

Operator : Hueanh

Sample : cc2825-50

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 16 09:06:06 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.742	59	117232	51.26	ug/L	96
51) freon 113	6.263	151	107093	48.41	ug/L	97
52) methacrylonitrile	8.559	41	101874	49.58	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	195296	53.17	ug/L	98
54) cyclohexane	9.056	84	188123	49.97	ug/L	86
57) epichlorohydrin	10.866	57	82349	269.82	ug/L	95
58) n-butyl alcohol	9.746	56	245416	2630.95	ug/L	98
59) carbon tetrachloride	9.134	117	173166	51.92	ug/L	98
60) 1,1-dichloropropene	9.108	75	188761	48.46	ug/L	98
61) hexane	7.518	57	203872	44.71	ug/L	99
62) Tert Amyl alcohol	9.208	73	35369	234.41	ug/L	97
63) benzene	9.344	78	543694	47.82	ug/L	100
64) iso-octane	9.417	57	538644	44.44	ug/L	98
65) tert-amyl methyl ether	9.401	87	89414	50.49	ug/L	95
66) heptane	9.553	57	124484	43.42	ug/L	98
67) isopropyl acetate	9.234	61	62984	53.54	ug/L	99
68) 1,2-dichloroethane	9.370	62	183663	50.54	ug/L	99
69) trichloroethene	10.013	95	144835	50.81	ug/L	96
71) ethyl acrylate	9.987	55	185624	50.02	ug/L	90
72) 2-nitropropane	10.750	41	60937	53.15	ug/L	85
73) 2-chloroethyl vinyl ether	10.771	63	497071	259.13	ug/L	99
74) methyl methacrylate	10.238	100	40321	50.69	ug/L	92
75) 1,2-dichloropropane	10.301	63	155719	50.34	ug/L	100
76) dibromomethane	10.405	93	94060	51.38	ug/L	99
77) methylcyclohexane	10.301	83	217909	45.73	ug/L	99
78) bromodichloromethane	10.552	83	203948	54.96	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	255196	51.46	ug/L	97
81) 4-methyl-2-pentanone	11.090	58	290794	230.62	ug/L	98
82) toluene	11.389	92	341638	47.41	ug/L	99
83) 3-methyl-1-butanol	11.085	55	149044	1140.12	ug/L	98
84) trans-1,3-dichloropropene	11.577	75	223838	52.23	ug/L	100
85) ethyl methacrylate	11.551	69	198129	50.37	ug/L	100
86) 1,1,2-trichloroethane	11.807	83	121043	52.57	ug/L	98
87) 2-hexanone	11.969	58	290470	223.99	ug/L	98
89) tetrachloroethene	11.959	164	140827	46.03	ug/L	97
90) 1,3-dichloropropane	12.000	76	222246	47.35	ug/L	99
91) butyl acetate	12.048	56	111030	51.21	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	145123	540.90	ug/L	98
93) dibromochloromethane	12.262	129	171393	58.44	ug/L	99
94) 1,2-dibromoethane	12.429	107	155465	50.44	ug/L	99
95) n-butyl ether	12.879	57	647921	46.27	ug/L	100
96) chlorobenzene	12.937	112	396884	47.82	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.010	131	150259	50.87	ug/L	99
98) ethylbenzene	12.999	91	651399	47.08	ug/L	100
99) m,p-xylene	13.130	106	511582	94.30	ug/L	96
100) o-xylene	13.570	106	269919	49.70	ug/L	96
101) styrene	13.585	104	449785	47.37	ug/L	97
102) bromoform	13.842	173	128064	51.17	ug/L	99
104) isopropylbenzene	13.951	105	693157	46.75	ug/L	100
106) cyclohexanone	14.108	55	96693	132.46	ug/L	97
107) bromobenzene	14.385	156	206763	48.12	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.265	83	212483	52.25	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	31735	36.48	ug/L	92
110) 1,2,3-trichloropropane	14.365	110	52475	51.55	ug/L	98
111) n-propylbenzene	14.412	91	810882	47.50	ug/L	100
113) 2-chlorotoluene	14.563	126	178024	47.85	ug/L	96
114) 4-chlorotoluene	14.689	91	512515	48.36	ug/L	99
115) 1,3,5-trimethylbenzene	14.589	105	572582	47.09	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\

Data File : 4B69333.D

Acq On : 15 Feb 2017 9:35 pm

Operator : Hueanh

Sample : cc2825-50

Misc : MS12524,V4B2853,5,,,1

ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 16 09:06:06 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Thu Feb 16 08:29:28 2017

Response via : Initial Calibration

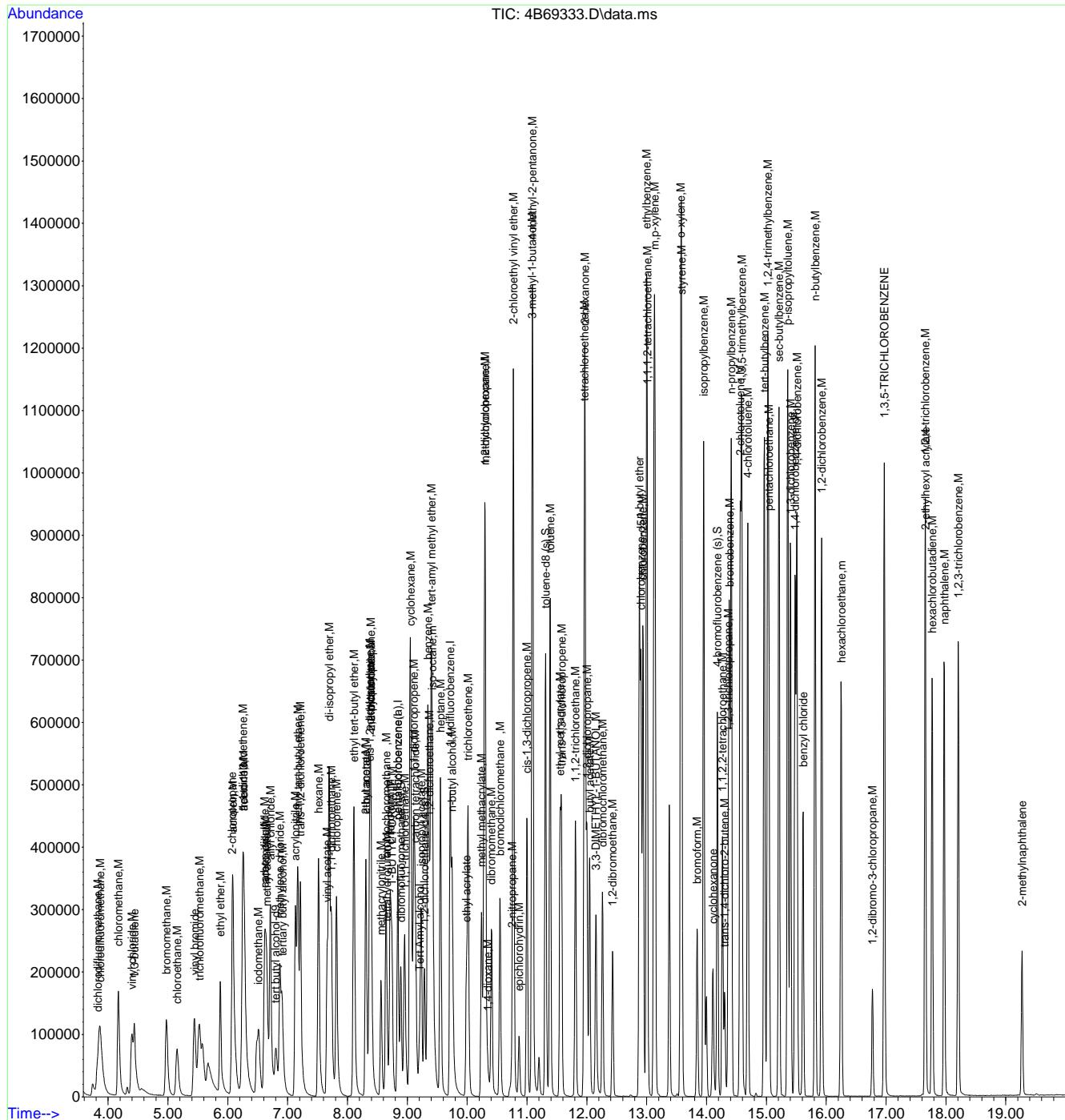
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
116) tert-butylbenzene	14.966	119	534119	47.61	ug/L	99
117) pentachloroethane	15.039	167	127438	53.58	ug/L	99
118) 1,2,4-trimethylbenzene	15.024	105	601781	48.65	ug/L	99
119) sec-butylbenzene	15.212	105	798267	47.95	ug/L	99
120) 1,3-dichlorobenzene	15.405	146	388234	48.33	ug/L	98
121) p-isopropyltoluene	15.358	119	705364	48.71	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	384358	49.12	ug/L	100
123) benzyl chloride	15.615	91	323369	46.71	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	385927	49.50	ug/L	99
126) n-butylbenzene	15.813	92	372414	48.56	ug/L	99
128) 1,2-dibromo-3-chloropr...	16.770	75	39729	57.22	ug/L	93
129) 1,3,5-TRICHLOROBENZENE	16.969	180	343005	49.79	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	304748	49.70	ug/L	98
131) hexachlorobutadiene	17.769	225	154956	43.07	ug/L	100
132) naphthalene	17.973	128	553699	49.93	ug/L	100
133) 1,2,3-trichlorobenzene	18.209	180	262370	48.61	ug/L	99
134) hexachloroethane	16.253	201	133334	49.22	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	13471	8.60	ug/L	99
136) 2-methylnaphthalene	19.270	142	124029	46.22	ug/L	98

(#= qualifier out of range (m)= manual integration (+)= signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2853-2854\
Data File : 4B69333.D
Acq On : 15 Feb 2017 9:35 pm
Operator : Hueanh
Sample : cc2825-50
Misc : MS12524,V4B2853,5,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 16 09:06:06 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



Date: 01/27/2017

VOLATILE ANALYSIS LOG

VolG-2417 80 715 250 1500ppm
VolG-2417- 69.2 1,38TD 180ppm

Standard Data

Lot #	Description	Conc.
01G-2477	62,39	EXT A
01G-2477	61,36	EXT B
01G-2477	111,2	EXT C
01G-2477	17,12	EXT E
01G-2477	79,5	Hex

Standard Data

Lot #	Description	Conc.
016-2417-	86.20	A 100 ppm
016-2417-	67.29	B 100 ppm
016-2417-	125.5	C 100 ppm
016-2417-	66.37	E 100-1000 ppm
016-2417-	NO.16	Ketone 400 ppm

Batch ID: ✓4B 2925

Print Analyst Name: Heath Tami

Analyst Signature: hui

Columns: Rxi 6.24 Sil (60x10.25mmx1.4μm)

Method V8260C

Initial Cal. Method M4B 2/25/85

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria in Appendix A.

Supervisor Signature: _____ **Date:** 2/1/14

R	Data File	Sample ID	Test #	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + I S U	S U	Status (Data)	Comments	pH* <2
	HB 68755	BF13											OK 1104am	
	68756	TC 2825 - 2	0260C	INITIAL	A	Q		5					OK 2ML A,B,C,E,K,1,3 BTD 10ml	
	68757	TC 2825 - 20		✓	A	Q		5					OK 10ML A,B,C,E,K,1,3 BTD 50ml	
	68758	TC 2825 - 50		✓	A	Q		5					OK 25ML A,B,C,E,K,1,3 BTD 50ml	
	68759	TC 2825 # 200		✓	A	Q		5					OK 100ML A,B,C,E,K,1,3 BTD 500ml	
	68760	JB												
	68761	JB												
	68762	TC 2825 - 0.2		✓	A	Q		5					OK 1ML A,B,C,E,K,1,3 BTD 100ml	
	68763	TC 2825 - 0.5		✓	A	Q		5					OK 2.5ML A,B,C,E,1,3 BTD, K 50ml	
	68764	TC 2825 - 1		✓	A	Q		5					OK 1ML A,B,C,E,K,1,3 BTD 100ml	
	68765	TC 2825 - 5		✓	A	Q		5					OK 5ML A,B,C,E,K,1,3 BTD 100ml	
	68766	TC 2825 - 10		✓	A	Q		5					OK 10ML A,B,C,E,K,1,3 BTD 100ml	
	68767	TC 2825 - 100		✓	A	Q		5					OK 100ML A,B,C,E,K,1,3 BTD 100ml	
	68768	JB												
	68769	JB												
	68770	TC 2825 - 50		✓	A	Q		5					OK 25ML A,B,C,E BTD KOTEN 1,3 BTD 100ml	
	68771	JB											OK no hexane pass in interval	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (μ l) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer comment.

miscalculation; 4 = analyst's correction error

10. The following table gives the number of hours per week spent by students in various activities.

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Rev. Date: 1/19/16

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VOLATILE ANALYSIS LOG

Date: 01/30/2017

Standard Data

016-2417-80 TTS 250 / 2500 ppm

Standard Data		
Lot #	Description	Conc.
N016-2411-129.2	Feron 142B	180 ppm
016-2412-130.1	FET Feron 142B	180 ppm

Standard Data		
Lot #	Description	Conc.
	A	
	B	
	C	
	D	
	E	
	1300P	1100B11P

Initial Cal. Method MAB 282X5
Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria in SOP EQA044.

Initial Cal. Method MAB 282X5

Method V3260C

Initial Cal. Method MAB 282X5
and verified to comply with the criteria ¹⁰⁻⁴⁻¹¹²

Supervisor Signature: _____  **Date:** 1/1/17

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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SGS

ACCUTEST

VOLATILE ANALYSIS LOG

Date: 02/14/2017

VOLG-2417-131.1 EXT 13 BTD 180 ppm
VOLG-2417-101.16 Kestones 400 ppm

Batch ID: V4B 2850 | 2851

Print Analyst Name: Huwain Train

Analyst Signature: Huwain

Columns: RXI 624 S/L (60m x 0.25mm)

Method V8260C

Initial Cal. Method NAB 2825

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044. 218915 DM Dated

Supervisor Signature:

Date: 2/14/17

Standard Data		
Lot #	Description	Conc.
016-2417-116.17	EXT A	100 ppm
016-2417-124.15	EXT B	100 ppm
016-2417-148.2	EXT C	100 ppm
016-2451-103.03.4	EXT D	100 ppm
016-2417-117.14	Flex	100 ppm

Standard Data		
Lot #	Description	Conc.
016-2417-128.4	A	100 ppm
016-2417-199.26	B	100 ppm
016-2417-143.3	C	100 ppm
016-2417-113.37	E	100 ppm
016-2417-134	D	250 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044. 218915 DM Dated

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + I S U	Status (Data)	Comments	pH* <2
	4B G9257	BFB										W 8.15 am	
	69 258	CC 2825- 20										NG	
	69 259	CC 2825 - 20										W W 10 uL T B C I E K 13 BTD	50 uL
	69 260	MB										W W on	
	69 261	BS										W W 25 uL EXT A B C E K Flex 13 BTD	50 uL
P	69 262	JC 36922-7	12448 2METHNB	G W	1		1/50		10x				
	69 263	JC 37024-8	12540 SL	G W	5		5		W				
	69 264	JC 37024-1	✓	G W	2		5		X				
	69 265	JC 36997-1	12520 TC L42	W G	2		5		X				
	69 266	JC 37024-2	12540 SL ✓	G W	1		10/50		5x				
	69 267	JC 37024-8 MS	✓	G W			5		X			20 uL EXT A B C E Flex K 13 BTD	1/50
	69 268	JC 37024-8 NSH	✓	G W			5		X				
D	69 269	JC 37024-2	✓	G W	1		1/50		50x			not red	
	69 270	JC 36989-8	12543 SL, VIMBR	W T			5		X				
	69 271	JC 36997-2	12520 TC L42	W G	1		5		X			WNR + FA	5
	69 272	JC 36997-3	✓	W W	1		5		X				
	69 273	JC 36997-4	✓	W W	2		5		X				

HT 021417P

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.

Sample Amt = Volume (ML) or Weight (g); MOH amt= volume (ul) extract injected * IF pH > 2, comment on sample result.

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-10
Rev. Date: 1/19/16

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ACCIDENT

VOLATILE ANALYSIS LOG

Date: 2/14/2017

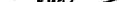
Standard Data

Standard Data

Lot #	Description	Conc.
	Dg 243	

Batch ID: V4B 2850 | 2851

Print Analyst Name: Huey Anh Tran

Analyst Signature: 

Columns: Fix 624 8c L | 60 m x 0,25 mm x |

Method ✓ 8260c —

Initial Cal. Method M4B 2925

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g). MOX = Matrix Oxidizer.

Sample Amt = Volume (ML) or Weight (g);
All strike area measured; MOH amt = volume (ul) extract injected * IF pH > 2, comment on sample results

All strike outs must be initialed, dated and reason given. If pH > 2, comment on sample result

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-10
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VOLATILE ANALYSIS LOG

Date: 02/15/2017

V016-2417-101,22 Ext Ketone H₂O₂
2/16/17 DT paper

Batch ID: V4B 2853 | 2854

Print Analyst Name: Huiearth Tran

Analyst Signature: Hue

Columns: RXI 624 SL (60Mx0.25mmx1.1μ)

Method V826OC

Initial Cal. Method MAB 2855

Standard Data		
Lot #	Description	Conc.
016-2417-127, 24	A	100 ppm
017-2451-1, 3	B	100 ppm
016-2417-143, 3	C	100 ppm
016-2417-119, 38	D	100-1000 ppm
016-2417-134	E	250-2500 ppm

Standard Data		
Lot #	Description	Conc.
016-2417-116, 31	EXT A	100 ppm
016-2417-124, 24	EXT B	100 ppm
016-2417-144, 2	EXT C	100 ppm
017-2451-03, 9	EXT E	100-1000 ppm
016-2417-147, 7	Hex	100 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: Melle Date: 2/16/17

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L +	I S	S U	Status (Data)	Comments	pH* <2
	4B 69309	B FB												0L	10.32ml
	69310	CC2825-20												✓ OK	#10L 10μl + B,C,E,K / 50ml
	69311	CC2825-20												✓ 0L	#11
	69312	CC2825-05												✓ 0L	#R #11 + 1L + B,C,E,13BD / 10ml
	69313	CC2825-1												✓ 0L	#R #10 1L + B,C,E,13BD / 10ml
	69314	MB												✓ 0L	
	69315	BS												✓ 0L	25μl EXT A,B,C,E,Hex,K / 50ml
	69316	IB													
	69317	JC37024-3			12540	G W 2		5		1x			✓ ✓	0L	
	69318	JC37024-4				G W 1		5		1x			✓ ✓	0L	
		JC37047-11				G W 5				1x					10.0215/17
	69319	JC37024-6				G W 1		5		1x			✓ ✓	0L	
	69320	JC37024-7				G W 2		5		1x			✓ ✓	0L	
R	69321	JC37047-11			12524	G W 5		5		1x			✓ ✓	0L	
	69322	JC37024-3 MS			12540	G W 1		5		1x			✓ ✓	20μl EXT A,B,C,E,Hex,K / 13BD	/ 50ml
	69323	IB													
	69324	JC37024-4 DUP				G W 2		5		1x			✓ ✓	0L	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/19/16

VOLATILE ANALYSIS LOG

Date: 02/15/2017

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	Dg 285	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: *Mirella* Date: 2/16/14

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + S	I S	S U	Status (Data)	Comments	pH* <2	
	AB 69 325	JC 37024-5	12540	SL	2	5			1x		✓	✓	✓	oil		✓
	69 326	JC 37024-10	✓	SL	2	5			1x		✓	✓	✓	oil		✓
	69 327	JC 37024-12	✓	SL	2	5			1x		✓	✓	✓	oil		✓
	69 328	NB														
	69 329	JC 34443-4F	11132	MDL			5/5	100						V4B - 2854		
	69 330	JC 34443-4F	✓	MDL			5/5	20						5 ppb		
														5 μl + 1B, c1E 11,3BDP / 100ml		
														8:38pm		
														not found		
	69 332	BBBL												oil	9:06pm	
	69 333	CC 2925-50												oil 25μl + 1B, c1E) K/50ml		
														not found		
	69 335	NB2												oil		
	69 336	JC 37047-8	12524	BTXM	G W 6	5			1x		✓	✓	✓	oil		✓
	69 337	JC 37047-18	✓	G W 6	0.5/50				180x		✓	✓	✓	oil		✓
	69 338	JC 37047-19	✓	G W 6	0.05/50				180x		✓	✓	✓	not need		✓
	69 339	JC 37047-19	✓	G W 6	5				1x		✓	✓	✓	oil		✓
	69 340	JC 37047-19	✓	G W 6	5/50				10x		✓	✓	✓	not need		✓
	69 341	JC 37047-20	✓	G W 6	10/50				5x		✓	✓	✓	oil		✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.

Sample Amt = Volume (ML) or Weight (g); MOH amt= volume (ul) extract injected * If pH > 2, comment on sample result.

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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ACCIDENT

VOLATILE ANALYSIS LOG

Date: 02/15/2017

Standard Data

Standard Data

Lot #	Description	Conc.
	Pg 289	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Acceptance SOP EQA044.

Batch ID: V4B 2953 | 2854

Print Analyst Name: Hannah Train

Analyst Signature: haw

Columns: Ry 624 S/L 60m x 0.25mm x 11

Method VAD60c

Initial Cal. Method M4B 2825

Supervisor Signature:

Date: 2/16/17

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (uL) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer
miscalculation; 4 = analyst's correction error

defined as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer

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Form: OR001-10
Rev. Date: 1/19/16

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VOLATILE ANALYSIS LOG

Date: 02/15/2017

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	Dg 289	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest
SOP EQA044.

Supervisor Signature: *M. Bell*

Date: 2/16/14

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + I S U	Status (Data)	Comments	pH* <2
	AB 69 325	JC 37024-5	1254C	W	2		5		1x	✓	oil		✓
	69 326	JC 37024-10	✓	W	2		5		1x	✓✓	oil		✓
	69 327	JC 37024-12	✓	W	2		5		1x	✓✓	oil		✓
	69 328	MB								✓✓		✓AB - 2854	
	69 329	JC 34443-4F	11132	W			5/5	100		✓✓	oil	5 ppb	
	69 330	JC 34443-4F	✓	W			5/5	100		✓✓	ok	5 µl AIBCE 113BD 1/100ml 8:38PM	
			JB							not read			
	69 332	BBB2								✓✓	oil	9:06PM	
	69 333	CC 2125-50								✓✓	oil	25ml AIBCE 1K/50ml	
			JB							not read			
	69 335	MB2								✓✓	oil		
	69 336	JC 37047-8	12524	G	6		5		1x	✓✓	oil		
	69 337	JC 37047-10	✓	G	6		0.5/50		10x	✓	oil		✓
	69 338	JC 37047-18	✓	G	6		0.03/50		100x	✓✓	not read		✓
	69 339	JC 37047-19	✓	G	6		5		1x	✓✓	oil		✓
	69 340	JC 37047-19	✓	G	6		5/50		10x	✓✓	not read		✓
	69 341	JC 37047-20	✓	G	6		10/50		5x	✓✓	oil		✓

TX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
 Sample Amt = Volume (ML) or Weight (g); MOH amt = volume (ul) extract injected * IF pH > 2, comment on sample result.
 All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer
 recalculation; 4 = analyst's correction error

rm: OR001-10
 v. Date: 1/19/16

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7.8.4
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ACCUTEST

New Jersey

02/22/17

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



e-Hardcopy 2.0
Automated Report

Technical Report for

United Technologies Corporation

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
60532451

SGS Accutest Job Number: JC37020

Sampling Dates: 02/06/17 - 02/08/17



Report to:

AECOM, INC.
4320 Winfield Road
Warrenville, IL 60555
peter.hollatz@aecom.com

ATTN: Peter Hollatz

Total number of pages in report: 264



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Kelly Patterson 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC,
OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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Test results relate only to samples analyzed.

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Sample Summary

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID	
JC37020-1	02/06/17	11:40 NP	02/10/17	AQ	Ground Water	HSSEN-SMW08-020617
JC37020-2	02/06/17	10:40 NP	02/10/17	AQ	Field Blank Water	HSSEN-FBLK01-020617
JC37020-3	02/06/17	13:35 NP	02/10/17	AQ	Ground Water	HSSEN-GMZ01-020617
JC37020-4	02/06/17	14:45 NP	02/10/17	AQ	Ground Water	HSSEN-SMW01-020617
JC37020-5	02/07/17	09:20 NP	02/10/17	AQ	Ground Water	HSSEN-SMW02-020717
JC37020-6	02/07/17	10:30 NP	02/10/17	AQ	Ground Water	HSSEN-MW203-020717
JC37020-7	02/07/17	11:15 NP	02/10/17	AQ	Ground Water	HSSEN-MW07FGA-020717
JC37020-8	02/07/17	13:05 NP	02/10/17	AQ	Ground Water	HSSEN-SMW19-020717
JC37020-9	02/07/17	14:25 NP	02/10/17	AQ	Ground Water	HSSEN-SMW21-020717
JC37020-10	02/08/17	08:30 NP	02/10/17	AQ	Ground Water	HSSEN-GMZ04-020817
JC37020-11	02/08/17	09:40 NP	02/10/17	AQ	Ground Water	HSSEN-SMW20-020817
JC37020-12	02/08/17	10:20 AH	02/10/17	AQ	Ground Water	HSSEN-PMW01-020817
JC37020-13	02/08/17	10:35 AH	02/10/17	AQ	Equipment Blank	HSSEN-EBLK01-020817



Sample Summary

(continued)

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID	
JC37020-14	02/08/17	10:50 NP	02/10/17	AQ	Ground Water	HSSER-GMZ03-020817
JC37020-15	02/08/17	11:45 AH	02/10/17	AQ	Ground Water	HSSER-PMW02-020817
JC37020-16	02/08/17	12:15 NP	02/10/17	AQ	Ground Water	HSSER-GMZ02-020817
JC37020-16D	02/08/17	12:15 NP	02/10/17	AQ	Water Dup/MSD	HSSER-MSD01-020817
JC37020-16S	02/08/17	12:15 NP	02/10/17	AQ	Water Matrix Spike	HSSER-MS01-020817
JC37020-17	02/08/17	12:45 AH	02/10/17	AQ	Ground Water	HSSER-SMW04-020817
JC37020-18	02/08/17	00:00 NP	02/10/17	AQ	Ground Water	HSSER-DUP01-020817
JC37020-19	02/08/17	12:45	02/10/17	AQ	Trip Blank Water	HSSER-TRIP01-020617

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	Job No	JC37020
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	Report Date	2/22/2017 9:57:51 AM

On 02/10/2017, 16 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) and 1 Equipment Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC37020 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ	Batch ID: V4B2855
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37020-16MS, JC37020-16MSD were used as the QC samples indicated.

Matrix: AQ	Batch ID: V4B2856
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- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37230-4DUP, JC37230-5MS were used as the QC samples indicated.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Page 1 of 3

Job Number: JC37020

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC37020-1 HSSER-SMW08-020617						
1,1-Dichloroethane	0.0063	0.0010	0.00021	mg/l	SW846 8260C	
1,1-Dichloroethene	0.00033 J	0.0010	0.00020	mg/l	SW846 8260C	
cis-1,2-Dichloroethene	0.0020	0.0010	0.00031	mg/l	SW846 8260C	
Tetrachloroethene	0.0200	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0093	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.0018	0.0010	0.00026	mg/l	SW846 8260C	
JC37020-2 HSSER-FBLK01-020617						
Toluene	0.00023 J	0.0010	0.00023	mg/l	SW846 8260C	
JC37020-3 HSSER-GMZ01-020617						
1,1-Dichloroethane	0.0074	0.0010	0.00021	mg/l	SW846 8260C	
1,1-Dichloroethene	0.00047 J	0.0010	0.00020	mg/l	SW846 8260C	
cis-1,2-Dichloroethene	0.0022	0.0010	0.00031	mg/l	SW846 8260C	
Tetrachloroethene	0.0290	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0083	0.0010	0.00022	mg/l	SW846 8260C	
Trichloroethene	0.0029	0.0010	0.00026	mg/l	SW846 8260C	
JC37020-4 HSSER-SMW01-020617						
Tetrachloroethene	0.0023	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0012	0.0010	0.00022	mg/l	SW846 8260C	
JC37020-5 HSSER-SMW02-020717						
1,1-Dichloroethane	0.00024 J	0.0010	0.00021	mg/l	SW846 8260C	
Tetrachloroethene	0.00056 J	0.0010	0.00023	mg/l	SW846 8260C	
JC37020-6 HSSER-MW203-020717						
Tetrachloroethene	0.0037	0.0010	0.00023	mg/l	SW846 8260C	
JC37020-7 HSSER-MW07FGA-020717						
Tetrachloroethene	0.00098 J	0.0010	0.00023	mg/l	SW846 8260C	
1,1,1-Trichloroethane	0.0023	0.0010	0.00022	mg/l	SW846 8260C	
JC37020-8 HSSER-SMW19-020717						
cis-1,2-Dichloroethene	0.00076 J	0.0010	0.00031	mg/l	SW846 8260C	
Tetrachloroethene	0.00073 J	0.0010	0.00023	mg/l	SW846 8260C	

Summary of Hits

Page 2 of 3

Job Number: JC37020

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1,1,1-Trichloroethane		0.00044 J	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0144	0.0010	0.00026	mg/l	SW846 8260C
JC37020-9 HSSER-SMW21-020717						
1,1-Dichloroethane		0.00022 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00053 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0043	0.0010	0.00022	mg/l	SW846 8260C
JC37020-10 HSSER-GMZ04-020817						
1,1-Dichloroethane		0.00027 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00046 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0028	0.0010	0.00022	mg/l	SW846 8260C
JC37020-11 HSSER-SMW20-020817						
No hits reported in this sample.						
JC37020-12 HSSER-PMW01-020817						
1,1-Dichloroethane		0.0011	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene		0.0116	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0051	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0010	0.0010	0.00026	mg/l	SW846 8260C
JC37020-13 HSSER-EBLK01-020817						
Toluene		0.00023 J	0.0010	0.00023	mg/l	SW846 8260C
JC37020-14 HSSER-GMZ03-020817						
1,1-Dichloroethane		0.00046 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00031 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00060 J	0.0010	0.00022	mg/l	SW846 8260C
JC37020-15 HSSER-PMW02-020817						
1,1-Dichloroethane		0.0054	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0098	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.0217	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0025	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0021	0.0010	0.00026	mg/l	SW846 8260C
Vinyl chloride		0.0088	0.0010	0.00033	mg/l	SW846 8260C

Summary of Hits

Page 3 of 3

Job Number: JC37020

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC37020-16 HSSER-GMZ02-020817

1,1-Dichloroethane	0.00067 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.00031 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.00072 J	0.0010	0.00022	mg/l	SW846 8260C

JC37020-17 HSSER-SMW04-020817

1,1-Dichloroethane	0.0109	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene	0.0273	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene	0.0108	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0011	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.0010	0.0010	0.00026	mg/l	SW846 8260C
Vinyl chloride	0.0146	0.0010	0.00033	mg/l	SW846 8260C

JC37020-18 HSSER-DUP01-020817

1,1-Dichloroethane	0.00049 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene	0.00033 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.00064 J	0.0010	0.00022	mg/l	SW846 8260C

JC37020-19 HSSER-TRIP01-020617

No hits reported in this sample.



ACCUTEST
New Jersey

Section 4

4

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

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Client Sample ID:	HSSER-SMW08-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37020-1	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69369.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0063	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.00033	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0020	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0200	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0093	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0018	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	117%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	106%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.1

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SGS Accutest

Report of Analysis

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4.2
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Client Sample ID:	HSSER-FBLK01-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37020-2	Date Received:	02/10/17
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69377.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	0.00023	0.0010	0.00023	mg/l	J
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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4

Client Sample ID:	HSSER-GMZ01-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37020-3	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69382.D	1	02/17/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0074	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.00047	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0022	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0290	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0083	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0029	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	116%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Page 1 of 1

Client Sample ID:	HSSER-SMW01-020617	Date Sampled:	02/06/17
Lab Sample ID:	JC37020-4	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69402.D	1	02/17/17	HT	n/a	n/a	V4B2856
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0023	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0012	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	113%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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Client Sample ID:	HSSER-SMW02-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37020-5	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69403.D	1	02/17/17	HT	n/a	n/a	V4B2856
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00024	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00056	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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Client Sample ID:	HSSER-MW203-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37020-6	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69404.D	1	02/17/17	HT	n/a	n/a	V4B2856
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0037	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-MW07FGA-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37020-7	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69405.D	1	02/17/17	HT	n/a	n/a	V4B2856
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00098	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0023	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-SMW19-020717	Date Sampled:	02/07/17
Lab Sample ID:	JC37020-8	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69380.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00076	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00073	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00044	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0144	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID: HSSER-SMW21-020717**Lab Sample ID:** JC37020-9**Date Sampled:** 02/07/17**Matrix:** AQ - Ground Water**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69381.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00022	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00053	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0043	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	114%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-GMZ04-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-10	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69368.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00027	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00046	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0028	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		76-120%
17060-07-0	1,2-Dichloroethane-D4	116%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-SMW20-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-11	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69367.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	116%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-PMW01-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-12	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69366.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0011	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0116	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0051	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0010	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID: HSSER-EBLK01-020817**Lab Sample ID:** JC37020-13**Date Sampled:** 02/08/17**Matrix:** AQ - Equipment Blank**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69378.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	0.00023	0.0010	0.00023	mg/l	J
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-GMZ03-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-14	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69365.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00046	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00031	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00060	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	HSSER-PMW02-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-15	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69358.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0054	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0098	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0217	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0025	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0021	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.0088	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Page 1 of 1

4.16
4

Client Sample ID:	HSSER-GMZ02-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-16	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69357.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00067	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00031	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00072	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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Client Sample ID:	HSSER-SMW04-020817	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-17	Date Received:	02/10/17
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69359.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0109	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0273	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0108	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0011	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0010	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.0146	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

4.17

4

SGS Accutest

Report of Analysis

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4.18
4**Client Sample ID:** HSSER-DUP01-020817**Lab Sample ID:** JC37020-18**Date Sampled:** 02/08/17**Matrix:** AQ - Ground Water**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69364.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00049	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00033	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00064	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	113%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

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4.19

4

Client Sample ID:	HSSER-TRIP01-020617	Date Sampled:	02/08/17
Lab Sample ID:	JC37020-19	Date Received:	02/10/17
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69379.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

Purge Volume	
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms**Custody Documents and Other Forms**

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



ACCUTEST

GW
TB

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

A B REVISED

PAGE 1 OF 2

FED-EX Tracking # 6780 9741 5239
SGS Accutest Quote #
Bottle Order Control #
SGS Accutest Job # JC37020

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)						Matrix Codes				
Company Name AECOM	Project Name: UTAS PLANTS 1/2 FACILITY																					
Street Address H320 WINFIELD RD	Street																					
City WALDENVILLE State IL Zip 60555	City ROCKFORD State IL																					
Project Contact Peter HOLLATZ/peter.hollatz@aecom.com	E-mail																					
Phone # 630.918.9648	Fax #																					
Sampler(s) Name(s) Nick PINS / Allan Hollatz	Phone #																					
SGS Accutest Sample #	Project Manager PETER HOLLATZ																					
Field ID / Point of Collection		Collection			* VOCs	Number of preserved Bottles																
1	HSSE- SMW08 - 020617	Date 2/6/17	Time 1140	Sampled by NP		Matrix GW	# of bottles 3	3	HCl	NaOH	HNO3	H2SO4	NONE	Ni/Water	MEOH	ENCORE						
2	HSSE- FBLK01 - 020617	2/6/17	1040	NP		GW	3	3														
3	HSSE- GMZ01 - 020617	2/6/17	1335	NP		GW	3	3														
4	HSSE- SMW01 - 020617	2/6/17	1445	NP		GW	3	3														
5	HSSE- SMW02 - 020717	2/7/17	0920	NP		GW	3	3														
6	HSSE- MW203 - 020717	2/7/17	1030	NP		GW	3	3														
7	HSSE- MW07F6A - 020717	2/7/17	1115	NP		GW	3	3														
8	HSSE- SMW19 - 020717	2/7/17	1305	NP		GW	3	3														
9	HSSE- SMW21 - 020717	2/7/17	1425	NP		GW	3	3														
10	HSSE- GMZ04 - 020817	2/8/17	0830	NP		GW	3	3														
11	HSSE- SMW26 - 020817	2/8/17	0940	NP		GW	3	3														
12	HSSE- PMW01 - 020817	2/8/17	1020	AH		GW	3	3														
Turnaround Time (Business days)		Data Deliverable Information										Comments / Special Instructions										
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> other _____		Approved by (SGS Accutest PM): / Date: INITIAL ASSESSMENT 1A 2017 LABEL VERIFICATION <i>[Signature]</i>										* LIST OF 13 VOCs LEVEL IV QC • VOA QC via!										
Emergency & Rush T/A data available VIA Lablink		Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data										Sample inventory is verified upon receipt in the Laboratory										
Relinquished by Sampler: 1 Nick PINS (AECOM)		Date Time: 2/9/17 1430	Received By: 1	Relinquished By: 2		Date Time: 2/10/17 10:00		Received By: 2														
Relinquished by Sampler: 3		Date Time:	Received By: 3	Relinquished By: 4		Date Time:		Received By: 4														
Relinquished by Sampler: 5		Date Time:	Received By: 5	Custody Seal # 916		<input checked="" type="checkbox"/> Intact	<input type="checkbox"/> Not Intact	Preserved where applicable		On Ice		Cooler Temp.		3.2°C								

JC37020: Chain of Custody

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SGS

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PAGE 2 OF 2

FED-EX Tracking #	6700 9741 5239	Bottle Order Control #
SGS Accutest Quote #		SGS Accutest Job # JC37020

Client / Reporting Information		Project Information						Requested Analysis (see TEST CODE sheet)						Matrix Codes			
Company Name AECOM	Project Name: UTAS PLANTS 1/2 FACILITY																
Street Address 4320 WINFIELD RD	Street																
City State Zip WANDELLVILLE IL 60555	City State ROCKFORD IL																
Project Contact Peter Houlatz	E-mail peter.houlatz@aecom.com	Project # 60532451															
Phone # 630. 918. 9648	Fax #	Client Purchase Order # 							City	State	Zip						
Sampler(s) Name(s) Nick PINS / ALLAN HOUZATZ	Phone #	Project Manager PETER HOUZATZ							Attention:								
SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles									
								NaOH	HNO3	H2SO4	None	N/ Water	NEOH	ENONE			
13	HSSE12-EBLK01-020817		2/8/17	1035	AH	GW	3	X									
14	HSSE12-GMZ-03-020817		2/8/17	1050	NP	GW	3	X									
15	HSSE12-PMW02-020817		2/8/17	1145	AH	GW	3	X									
16	HSSE12-GMZ02-020817		2/8/17	1215	NP	GW	3	X									
17	HSSE12-MSD01-020817		2/8/17	1215	NP	GW	3	X									
18	HSSE12-MSD01-020817		2/8/17	1215	NP	GW	3	X									
19	HSSE12-SMYN04-020817		2/8/17	1245	AH	GW	3	X									
20	HSSE12-DWPC01-020817		2/8/17	0000	NP	GW	3	X									
21	HSSE12-TRIP01-020817		2/6/17	-	-	GW	2	X									
Turnaround Time (Business days)								Data Deliverable Information						Comments / Special Instructions			
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> other _____		Approved by (SGS Accutest PM): / Date: _____						<input type="checkbox"/> Commercial "a" (Level 1) <input type="checkbox"/> NYASP Category A <input type="checkbox"/> Commercial "b" (Level 2) <input type="checkbox"/> NYASP Category B <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> State Forms <input type="checkbox"/> NJ Reduced <input type="checkbox"/> EDD Format <input type="checkbox"/> Commercial "C" <input type="checkbox"/> Other <input type="checkbox"/> NJ Data of Known Quality Protocol Reporting <small>Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data</small>						* LIST OF 13 VOCs LEVEL IV QC			
Emergency & Rush T/A data available VIA LabLink																Sample inventory is verified upon receipt in the Laboratory	
Relinquished by Sampler: 1 N.H.L.F (AECOM)		Date/Time: 2/9/17 1400	Received By: 1	F-X		Relinquished By: 2		F-X		Date/Time: 2/10/17 10:00	Received By: 2	On Ice <input checked="" type="checkbox"/>		Cooler Temp. 3.2			
Relinquished by Sampler: 3		Date/Time:	Received By:	3		Relinquished By: 4		4		Date/Time:	Received By:	4					
Relinquished by Sampler: 5		Date/Time:	Received By:	5		Custody Seal #		<input type="checkbox"/> Intact	Preserved where applicable								

JC37020: Chain of Custody

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5.1

SGS

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ACCUTEST
JC37020

SGS Accutest Sample Receipt Summary

Job Number: JC37020 **Client:** AECOM **Project:** UTAS PLANTS 1/2 FACILITY
Date / Time Received: 2/10/2017 10:00:00 AM **Delivery Method:** FedEx **Airbill #s:** 6780 9741 5239

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

<u>Cooler Security</u>	<u>Y or N</u>	<u>Y or N</u>	<u>Sample Integrity - Documentation</u>	<u>Y or N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>
<u>Cooler Temperature</u>	<u>Y or N</u>		<u>Sample Integrity - Condition</u>	<u>Y or N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Sample rcvd within HT:	<input checked="" type="checkbox"/>
2. Cooler temp verification:	IR Gun		2. All containers accounted for:	<input checked="" type="checkbox"/>
3. Cooler media:	Ice (Bag)		3. Condition of sample:	Broken / Leaking
4. No. Coolers:	1			
<u>Quality Control Preservation</u>	<u>Y or N</u>	<u>N/A</u>	<u>Sample Integrity - Instructions</u>	<u>Y or N</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Analysis requested is clear:	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Bottles received for unspecified tests	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Sufficient volume rcvd for analysis:	<input checked="" type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Compositing instructions clear:	<input type="checkbox"/>
			5. Filtering instructions clear:	<input type="checkbox"/>

Comments

1) -16: Received 2 of 9 VOC vials broken. Limited volume.

SM089-02
Rev. Date 12/1/16

JC37020: Chain of Custody

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5.1

Responded to by: Kelly

Response Date: 2/10/17

Response:

Please proceed as noted with limited volume

5.1

5

JC37020: Chain of Custody

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Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-1	HSSEN-SMW08-020617	Collected: 06-FEB-17 11:40 By: NP		Received: 10-FEB-17	By: HY	
JC37020-1	SW846 8260C	16-FEB-17 17:59	HT			V8260SL
JC37020-2	HSSEN-FBLK01-020617	Collected: 06-FEB-17 10:40 By: NP		Received: 10-FEB-17	By: HY	
JC37020-2	SW846 8260C	16-FEB-17 21:48	HT			V8260SL
JC37020-3	HSSEN-GMZ01-020617	Collected: 06-FEB-17 13:35 By: NP		Received: 10-FEB-17	By: HY	
JC37020-3	SW846 8260C	17-FEB-17 00:10	HT			V8260SL
JC37020-4	HSSEN-SMW01-020617	Collected: 06-FEB-17 14:45 By: NP		Received: 10-FEB-17	By: HY	
JC37020-4	SW846 8260C	17-FEB-17 17:29	HT			V8260SL
JC37020-5	HSSEN-SMW02-020717	Collected: 07-FEB-17 09:20 By: NP		Received: 10-FEB-17	By: HY	
JC37020-5	SW846 8260C	17-FEB-17 17:57	HT			V8260SL
JC37020-6	HSSEN-MW203-020717	Collected: 07-FEB-17 10:30 By: NP		Received: 10-FEB-17	By: HY	
JC37020-6	SW846 8260C	17-FEB-17 18:26	HT			V8260SL
JC37020-7	HSSEN-MW07FGA-020717	Collected: 07-FEB-17 11:15 By: NP		Received: 10-FEB-17	By: HY	
JC37020-7	SW846 8260C	17-FEB-17 18:56	HT			V8260SL
JC37020-8	HSSEN-SMW19-020717	Collected: 07-FEB-17 13:05 By: NP		Received: 10-FEB-17	By: HY	
JC37020-8	SW846 8260C	16-FEB-17 23:14	HT			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-9 HSSER-SMW21-020717	Collected: 07-FEB-17 14:25 By: NP			Received: 10-FEB-17	By: HY	
JC37020-9 SW846 8260C		16-FEB-17 23:42	HT			V8260SL
JC37020-10 HSSER-GMZ04-020817	Collected: 08-FEB-17 08:30 By: NP			Received: 10-FEB-17	By: HY	
JC37020-10 SW846 8260C		16-FEB-17 17:31	HT			V8260SL
JC37020-11 HSSER-SMW20-020817	Collected: 08-FEB-17 09:40 By: NP			Received: 10-FEB-17	By: HY	
JC37020-11 SW846 8260C		16-FEB-17 17:03	HT			V8260SL
JC37020-12 HSSER-PMW01-020817	Collected: 08-FEB-17 10:20 By: AH			Received: 10-FEB-17	By: HY	
JC37020-12 SW846 8260C		16-FEB-17 16:35	HT			V8260SL
JC37020-13 HSSER-EBLK01-020817	Collected: 08-FEB-17 10:35 By: AH			Received: 10-FEB-17	By: HY	
JC37020-13 SW846 8260C		16-FEB-17 22:16	HT			V8260SL
JC37020-14 HSSER-GMZ03-020817	Collected: 08-FEB-17 10:50 By: NP			Received: 10-FEB-17	By: HY	
JC37020-14 SW846 8260C		16-FEB-17 16:07	HT			V8260SL
JC37020-15 HSSER-PMW02-020817	Collected: 08-FEB-17 11:45 By: AH			Received: 10-FEB-17	By: HY	
JC37020-15 SW846 8260C		16-FEB-17 12:45	HT			V8260SL
JC37020-16 HSSER-GMZ02-020817	Collected: 08-FEB-17 12:15 By: NP			Received: 10-FEB-17	By: HY	
JC37020-16 SW846 8260C		16-FEB-17 12:17	HT			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-17	HSSEN-SMW04-020817	Collected: 08-FEB-17 12:45	By: AH	Received: 10-FEB-17	By: HY	
JC37020-17	SW846 8260C	16-FEB-17 13:13	HT			V8260SL
JC37020-18	HSSEN-DUP01-020817	Collected: 08-FEB-17 00:00	By: NP	Received: 10-FEB-17	By: HY	
JC37020-18	SW846 8260C	16-FEB-17 15:36	HT			V8260SL
JC37020-19	HSSEN-TRIP01-020617	Collected: 08-FEB-17 12:45	By:	Received: 10-FEB-17	By: HY	
JC37020-19	SW846 8260C	16-FEB-17 22:44	HT			V8260SL

SGS Accutest Internal Chain of Custody

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Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

5.3

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-1.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-1.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-1.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-1.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-1.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-1.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-1.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-1.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-2.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-2.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-2.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-2.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-2.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-2.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-2.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-2.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-3.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-3.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-3.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-3.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-3.1	Secured Storage	Hueanh Tran	02/16/17 10:56	Retrieve from Storage
JC37020-3.1	Hueanh Tran	GCMS4B	02/16/17 10:56	Load on Instrument
JC37020-3.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-3.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-4.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-4.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-4.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-4.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-4.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-4.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-4.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-4.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-5.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-5.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-5.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-5.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-5.1	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-5.1	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-5.1	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-5.1	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage

SGS Accutest Internal Chain of Custody

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Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-6.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-6.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-6.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-6.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-6.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-6.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-6.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-6.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-7.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-7.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-7.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-7.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-7.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-7.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-7.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-7.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-8.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-8.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-8.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-8.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-8.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-8.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-8.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-8.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-9.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-9.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-9.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-9.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-9.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-9.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-9.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-9.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-10.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-10.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-10.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-10.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-10.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-10.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-10.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument

SGS Accutest Internal Chain of Custody

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Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-10.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-11.3	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-11.3	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-11.3	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-11.3	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-11.3	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-11.3	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-11.3	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-11.3	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-12.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-12.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-12.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-12.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-12.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-12.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-12.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-12.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-13.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-13.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-13.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-13.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-13.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-13.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-13.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-13.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-14.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-14.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-14.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-14.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-14.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-14.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-14.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-14.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-15.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-15.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-15.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-15.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-15.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-15.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument

SGS Accutest Internal Chain of Custody

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Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

5.3

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-15.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-15.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-16.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-16.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.2	Secured Storage	Hueanh Tran	02/16/17 10:56	Retrieve from Storage
JC37020-16.2	Hueanh Tran	GCMS4B	02/16/17 10:56	Load on Instrument
JC37020-16.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.8	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.8	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.8	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.8	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.8	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-16.8	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-16.8	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.8	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-17.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-17.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-17.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-17.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-17.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-17.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-17.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-17.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-18.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-18.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-18.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-18.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-18.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage

SGS Accutest Internal Chain of Custody

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Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Received: 02/10/17

5.3
5

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-18.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-18.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-18.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-19.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-19.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-19.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-19.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-19.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-19.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-19.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-19.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage

GC/MS Volatiles**QC Data Summaries**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2855-MB	4B69353.D	1	02/16/17	HT	n/a	n/a	V4B2855

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37020-1, JC37020-10, JC37020-11, JC37020-12, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103%
17060-07-0	1,2-Dichloroethane-D4	76-120%
2037-26-5	Toluene-D8	109%
460-00-4	4-Bromofluorobenzene	73-122%
		101%
		84-119%
		104%
		78-117%

Method Blank Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2855-MB2	4B69376.D	1	02/16/17	HT	n/a	n/a	V4B2855

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-13, JC37020-19

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103%
17060-07-0	1,2-Dichloroethane-D4	107%
2037-26-5	Toluene-D8	101%
460-00-4	4-Bromofluorobenzene	101%

Method Blank Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2856-MB	4B69387.D	1	02/17/17	HT	n/a	n/a	V4B2856

The QC reported here applies to the following samples:**Method: SW846 8260C**

JC37020-4, JC37020-5, JC37020-6, JC37020-7

6.1.3
6

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104%
17060-07-0	1,2-Dichloroethane-D4	76-120%
2037-26-5	Toluene-D8	109%
460-00-4	1,2-Dichloroethane-D4	73-122%
		101%
		84-119%
		102%
		78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2855-BS	4B69354.D	1	02/16/17	HT	n/a	n/a	V4B2855

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37020-1, JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-10, JC37020-11, JC37020-12, JC37020-13, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18, JC37020-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	46.4	93	79-124
107-06-2	1,2-Dichloroethane	50	49.6	99	81-127
75-35-4	1,1-Dichloroethene	50	43.2	86	69-136
156-59-2	cis-1,2-Dichloroethene	50	48.9	98	79-118
156-60-5	trans-1,2-Dichloroethene	50	45.3	91	73-125
100-41-4	Ethylbenzene	50	47.3	95	84-115
75-09-2	Methylene chloride	50	46.5	93	75-122
127-18-4	Tetrachloroethene	50	46.3	93	70-134
108-88-3	Toluene	50	47.2	94	84-117
71-55-6	1,1,1-Trichloroethane	50	49.1	98	83-134
79-00-5	1,1,2-Trichloroethane	50	49.9	100	84-119
79-01-6	Trichloroethene	50	50.7	101	84-120
75-01-4	Vinyl chloride	50	45.5	91	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	104%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2856-BS	4B69388.D	1	02/17/17	HT	n/a	n/a	V4B2856

The QC reported here applies to the following samples:**Method:** SW846 8260C

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	48.2	96	79-124
107-06-2	1,2-Dichloroethane	50	51.4	103	81-127
75-35-4	1,1-Dichloroethene	50	48.2	96	69-136
156-59-2	cis-1,2-Dichloroethene	50	50.7	101	79-118
156-60-5	trans-1,2-Dichloroethene	50	46.5	93	73-125
100-41-4	Ethylbenzene	50	46.4	93	84-115
75-09-2	Methylene chloride	50	50.1	100	75-122
127-18-4	Tetrachloroethene	50	44.1	88	70-134
108-88-3	Toluene	50	46.4	93	84-117
71-55-6	1,1,1-Trichloroethane	50	48.9	98	83-134
79-00-5	1,1,2-Trichloroethane	50	49.0	98	84-119
79-01-6	Trichloroethene	50	50.2	100	84-120
75-01-4	Vinyl chloride	50	36.0	72	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	105%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37230-5MS	4B69396.D	1	02/17/17	HT	n/a	n/a	V4B2856
JC37230-5	4B69391.D	1	02/17/17	HT	n/a	n/a	V4B2856

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	JC37230-5		Spike	MS	MS	Limits
		ug/l	Q	ug/l	ug/l	%	
75-34-3	1,1-Dichloroethane	ND		50	47.6	95	71-131
107-06-2	1,2-Dichloroethane	ND		50	48.2	96	72-135
75-35-4	1,1-Dichloroethene	ND		50	49.3	99	57-149
156-59-2	cis-1,2-Dichloroethene	ND		50	49.2	98	59-134
156-60-5	trans-1,2-Dichloroethene	ND		50	47.9	96	64-134
100-41-4	Ethylbenzene	ND		50	46.5	93	48-143
75-09-2	Methylene chloride	ND		50	48.0	96	69-127
127-18-4	Tetrachloroethene	ND		50	47.0	94	55-144
108-88-3	Toluene	ND		50	45.6	91	61-136
71-55-6	1,1,1-Trichloroethane	ND		50	52.5	105	70-147
79-00-5	1,1,2-Trichloroethane	ND		50	47.6	95	78-122
79-01-6	Trichloroethene	ND		50	50.7	101	62-141
75-01-4	Vinyl chloride	ND		50	48.7	97	44-136

CAS No.	Surrogate Recoveries	MS	JC37230-5	Limits
1868-53-7	Dibromofluoromethane	105%	106%	76-120%
17060-07-0	1,2-Dichloroethane-D4	104%	112%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	103%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37020-16MS	4B69371.D	1	02/16/17	HT	n/a	n/a	V4B2855
JC37020-16MSD	4B69372.D	1	02/16/17	HT	n/a	n/a	V4B2855
JC37020-16	4B69357.D	1	02/16/17	HT	n/a	n/a	V4B2855

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37020-1, JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-10, JC37020-11, JC37020-12, JC37020-13, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18, JC37020-19

CAS No.	Compound	JC37020-16		Spike	MS	MS	Spike	MSD	MSD	RPD	Limits Rec/RPD
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l	%		
75-34-3	1,1-Dichloroethane	0.67	J	50	50.2	99	50	47.1	93	6	71-131/12
107-06-2	1,2-Dichloroethane	ND		50	49.6	99	50	48.0	96	3	72-135/11
75-35-4	1,1-Dichloroethene	ND		50	44.9	90	50	42.4	85	6	57-149/14
156-59-2	cis-1,2-Dichloroethene	ND		50	49.9	100	50	48.3	97	3	59-134/11
156-60-5	trans-1,2-Dichloroethene	ND		50	47.8	96	50	45.5	91	5	64-134/12
100-41-4	Ethylbenzene	ND		50	46.8	94	50	46.0	92	2	48-143/11
75-09-2	Methylene chloride	ND		50	47.3	95	50	45.1	90	5	69-127/12
127-18-4	Tetrachloroethene	0.31	J	50	46.9	93	50	46.2	92	2	55-144/12
108-88-3	Toluene	ND		50	46.3	93	50	45.4	91	2	61-136/11
71-55-6	1,1,1-Trichloroethane	0.72	J	50	55.1	109	50	53.9	106	2	70-147/13
79-00-5	1,1,2-Trichloroethane	ND		50	48.7	97	50	48.0	96	1	78-122/10
79-01-6	Trichloroethene	ND		50	51.0	102	50	49.9	100	2	62-141/11
75-01-4	Vinyl chloride	ND		50	43.9	88	50	43.9	88	0	44-136/16

CAS No.	Surrogate Recoveries	MS	MSD	JC37020-16 Limits
1868-53-7	Dibromofluoromethane	107%	104%	105% 76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	104%	109% 73-122%
2037-26-5	Toluene-D8	99%	100%	99% 84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	104% 78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37230-4DUP	4B69398.D	1	02/17/17	HT	n/a	n/a	V4B2856
JC37230-4	4B69390.D	1	02/17/17	HT	n/a	n/a	V4B2856

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	JC37230-4		Q	RPD	Limits
		ug/l	DUP ug/l			
75-34-3	1,1-Dichloroethane	ND	ND	nc	20	
107-06-2	1,2-Dichloroethane	ND	ND	nc	20	
75-35-4	1,1-Dichloroethene	ND	ND	nc	20	
156-59-2	cis-1,2-Dichloroethene	ND	ND	nc	20	
156-60-5	trans-1,2-Dichloroethene	ND	ND	nc	20	
100-41-4	Ethylbenzene	ND	ND	nc	20	
75-09-2	Methylene chloride	ND	ND	nc	20	
127-18-4	Tetrachloroethene	ND	ND	nc	20	
108-88-3	Toluene	ND	ND	nc	20	
71-55-6	1,1,1-Trichloroethane	ND	ND	nc	20	
79-00-5	1,1,2-Trichloroethane	ND	ND	nc	20	
79-01-6	Trichloroethene	ND	ND	nc	20	
75-01-4	Vinyl chloride	ND	ND	nc	20	

CAS No.	Surrogate Recoveries	DUP	JC37230-4	Limits
1868-53-7	Dibromofluoromethane	104%	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	108%	110%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-BFB
Lab File ID: 4B68755.D
Instrument ID: GCMS4B

Injection Date: 01/27/17
Injection Time: 11:04

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21258	19.0	Pass
75	30.0 - 60.0% of mass 95	50882	45.5	Pass
95	Base peak, 100% relative abundance	111944	100.0	Pass
96	5.0 - 9.0% of mass 95	7433	6.64	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	113464	101.4	Pass
175	5.0 - 9.0% of mass 174	8642	7.72	(7.62) ^a Pass
176	95.0 - 101.0% of mass 174	110720	98.9	(97.6) ^a Pass
177	5.0 - 9.0% of mass 176	7242	6.47	(6.54) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2825-IC2825	4B68756.D	01/27/17	11:39	00:35	Initial cal 2
V4B2825-IC2825	4B68757.D	01/27/17	12:07	01:03	Initial cal 20
V4B2825-ICC2825	4B68758.D	01/27/17	12:35	01:31	Initial cal 50
V4B2825-IC2825	4B68759.D	01/27/17	13:03	01:59	Initial cal 200
V4B2825-IC2825	4B68762.D	01/27/17	14:30	03:26	Initial cal 0.2
V4B2825-IC2825	4B68763.D	01/27/17	14:58	03:54	Initial cal 0.5
V4B2825-IC2825	4B68764.D	01/27/17	15:26	04:22	Initial cal 1
V4B2825-IC2825	4B68765.D	01/27/17	15:57	04:53	Initial cal 5
V4B2825-IC2825	4B68766.D	01/27/17	16:25	05:21	Initial cal 10
V4B2825-IC2825	4B68767.D	01/27/17	16:53	05:49	Initial cal 100
V4B2825-ICV2825	4B68770.D	01/27/17	18:19	07:15	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-BFB	Injection Date: 01/30/17
Lab File ID: 4B68829.D	Injection Time: 22:20
Instrument ID: GCMS4B	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21741	20.2	Pass
75	30.0 - 60.0% of mass 95	51608	47.9	Pass
95	Base peak, 100% relative abundance	107738	100.0	Pass
96	5.0 - 9.0% of mass 95	6993	6.49	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	102328	95.0	Pass
175	5.0 - 9.0% of mass 174	7984	7.41	(7.80) ^a Pass
176	95.0 - 101.0% of mass 174	99685	92.5	(97.4) ^a Pass
177	5.0 - 9.0% of mass 176	6688	6.21	(6.71) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2828-IC2825	4B68832.D	01/31/17	00:21	02:01	Initial cal 5
V4B2828-IC2825	4B68833.D	01/31/17	00:49	02:29	Initial cal 10
V4B2828-IC2825	4B68834.D	01/31/17	01:20	03:00	Initial cal 20
V4B2828-IC2825	4B68835.D	01/31/17	01:48	03:28	Initial cal 50
V4B2828-IC2825	4B68836.D	01/31/17	02:16	03:56	Initial cal 100
V4B2828-IC2825	4B68837.D	01/31/17	02:44	04:24	Initial cal 200
V4B2828-ICV2825	4B68840.D	01/31/17	04:10	05:50	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2855-BFB
Lab File ID: 4B69351.D
Instrument ID: GCMS4B

Injection Date: 02/16/17
Injection Time: 09:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	20285	19.7	Pass
75	30.0 - 60.0% of mass 95	48836	47.5	Pass
95	Base peak, 100% relative abundance	102712	100.0	Pass
96	5.0 - 9.0% of mass 95	7127	6.94	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	99093	96.5	Pass
175	5.0 - 9.0% of mass 174	7577	7.38	(7.65) ^a Pass
176	95.0 - 101.0% of mass 174	97499	94.9	(98.4) ^a Pass
177	5.0 - 9.0% of mass 176	6660	6.48	(6.83) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2855-CC2825	4B69352.D	02/16/17	09:44	00:32	Continuing cal 20
V4B2855-MB	4B69353.D	02/16/17	10:16	01:04	Method Blank
V4B2855-BS	4B69354.D	02/16/17	10:45	01:33	Blank Spike
ZZZZZZ	4B69355.D	02/16/17	11:21	02:09	(unrelated sample)
JC37020-16	4B69357.D	02/16/17	12:17	03:05	HSSER-GMZ02-020817
JC37020-15	4B69358.D	02/16/17	12:45	03:33	HSSER-PMW02-020817
JC37020-17	4B69359.D	02/16/17	13:13	04:01	HSSER-SMW04-020817
ZZZZZZ	4B69360.D	02/16/17	13:44	04:32	(unrelated sample)
ZZZZZZ	4B69362.D	02/16/17	14:40	05:28	(unrelated sample)
ZZZZZZ	4B69363.D	02/16/17	15:08	05:56	(unrelated sample)
JC37020-18	4B69364.D	02/16/17	15:36	06:24	HSSER-DUP01-020817
JC37020-14	4B69365.D	02/16/17	16:07	06:55	HSSER-GMZ03-020817
JC37020-12	4B69366.D	02/16/17	16:35	07:23	HSSER-PMW01-020817
JC37020-11	4B69367.D	02/16/17	17:03	07:51	HSSER-SMW20-020817
JC37020-10	4B69368.D	02/16/17	17:31	08:19	HSSER-GMZ04-020817
JC37020-1	4B69369.D	02/16/17	17:59	08:47	HSSER-SMW08-020617
ZZZZZZ	4B69370.D	02/16/17	18:29	09:17	(unrelated sample)
JC37020-16MS	4B69371.D	02/16/17	18:57	09:45	Matrix Spike
JC37020-16MSD	4B69372.D	02/16/17	19:25	10:13	Matrix Spike Duplicate
ZZZZZZ	4B69373.D	02/16/17	19:53	10:41	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2855-BFB2	Injection Date:	02/16/17
Lab File ID:	4B69374.D	Injection Time:	20:21
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	20659	19.4	Pass
75	30.0 - 60.0% of mass 95	50043	47.0	Pass
95	Base peak, 100% relative abundance	106469	100.0	Pass
96	5.0 - 9.0% of mass 95	6858	6.44	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	105408	99.0	Pass
175	5.0 - 9.0% of mass 174	8505	7.99	(8.07) ^a Pass
176	95.0 - 101.0% of mass 174	105141	98.8	(99.7) ^a Pass
177	5.0 - 9.0% of mass 176	6562	6.16	(6.24) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2855-CC2825	4B69375.D	02/16/17	20:51	00:30	Continuing cal 50
V4B2855-MB2	4B69376.D	02/16/17	21:19	00:58	Method Blank
JC37020-2	4B69377.D	02/16/17	21:48	01:27	HSSER-FBLK01-020617
JC37020-13	4B69378.D	02/16/17	22:16	01:55	HSSER-EBLK01-020817
JC37020-19	4B69379.D	02/16/17	22:44	02:23	HSSER-TRIP01-020617
JC37020-8	4B69380.D	02/16/17	23:14	02:53	HSSER-SMW19-020717
JC37020-9	4B69381.D	02/16/17	23:42	03:21	HSSER-SMW21-020717
JC37020-3	4B69382.D	02/17/17	00:10	03:49	HSSER-GMZ01-020617

Instrument Performance Check (BFB)

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2856-BFB
Lab File ID: 4B69385.D
Instrument ID: GCMS4B

Injection Date: 02/17/17
Injection Time: 09:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	20253	20.0	Pass
75	30.0 - 60.0% of mass 95	48413	47.8	Pass
95	Base peak, 100% relative abundance	101253	100.0	Pass
96	5.0 - 9.0% of mass 95	6563	6.48	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) ^a Pass
174	50.0 - 120.0% of mass 95	99315	98.1	Pass
175	5.0 - 9.0% of mass 174	7791	7.69	(7.84) ^a Pass
176	95.0 - 101.0% of mass 174	97355	96.2	(98.0) ^a Pass
177	5.0 - 9.0% of mass 176	6657	6.57	(6.84) ^b Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2856-CC2825	4B69386.D	02/17/17	09:42	00:28	Continuing cal 20
V4B2856-MB	4B69387.D	02/17/17	10:12	00:58	Method Blank
V4B2856-BS	4B69388.D	02/17/17	10:40	01:26	Blank Spike
JC37230-4	4B69390.D	02/17/17	11:47	02:33	(used for QC only; not part of job JC37020)
JC37230-5	4B69391.D	02/17/17	12:15	03:01	(used for QC only; not part of job JC37020)
ZZZZZZ	4B69392.D	02/17/17	12:43	03:29	(unrelated sample)
ZZZZZZ	4B69393.D	02/17/17	13:12	03:58	(unrelated sample)
ZZZZZZ	4B69394.D	02/17/17	13:40	04:26	(unrelated sample)
JC37230-5MS	4B69396.D	02/17/17	14:38	05:24	Matrix Spike
JC37230-4DUP	4B69398.D	02/17/17	15:35	06:21	Duplicate
ZZZZZZ	4B69399.D	02/17/17	16:03	06:49	(unrelated sample)
ZZZZZZ	4B69400.D	02/17/17	16:33	07:19	(unrelated sample)
ZZZZZZ	4B69401.D	02/17/17	17:01	07:47	(unrelated sample)
JC37020-4	4B69402.D	02/17/17	17:29	08:15	HSSER-SMW01-020617
JC37020-5	4B69403.D	02/17/17	17:57	08:43	HSSER-SMW02-020717
JC37020-6	4B69404.D	02/17/17	18:26	09:12	HSSER-MW203-020717
JC37020-7	4B69405.D	02/17/17	18:56	09:42	HSSER-MW07FGA-020717
ZZZZZZ	4B69406.D	02/17/17	19:24	10:10	(unrelated sample)
ZZZZZZ	4B69407.D	02/17/17	19:52	10:38	(unrelated sample)

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2855-CC2825	Injection Date:	02/16/17
Lab File ID:	4B69352.D	Injection Time:	09:44
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	118963	6.80	278792	8.84	387728	9.71
Upper Limit ^a	237926	7.30	557584	9.34	775456	10.21
Lower Limit ^b	59482	6.30	139396	8.34	193864	9.21

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2855-MB	131576	6.81	297318	8.84	408799	9.71
V4B2855-BS	107920	6.81	271170	8.84	382795	9.71
ZZZZZZ	131432	6.81	295056	8.84	406677	9.71
JC37020-16	137123	6.81	304465	8.84	419229	9.71
JC37020-15	133577	6.81	299739	8.84	413850	9.71
JC37020-17	138582	6.81	291119	8.84	408824	9.71
ZZZZZZ	130599	6.81	283792	8.84	388831	9.71
ZZZZZZ	129361	6.81	293862	8.84	407021	9.71
ZZZZZZ	134796	6.81	290892	8.84	405800	9.71
JC37020-18	140822	6.81	289130	8.84	403851	9.71
JC37020-14	151550	6.81	283702	8.84	394173	9.71
JC37020-12	131117	6.81	279550	8.84	391793	9.71
JC37020-11	135561	6.81	282885	8.84	400638	9.71
JC37020-10	133097	6.81	280762	8.84	393964	9.71
JC37020-1	134730	6.81	279184	8.84	394415	9.71
ZZZZZZ	123761	6.80	273645	8.84	379804	9.71
JC37020-16MS	148075	6.81	270919	8.84	388451	9.71
JC37020-16MSD	145122	6.80	279086	8.84	389654	9.71
ZZZZZZ	138374	6.81	303260	8.84	419181	9.71

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2855-CC2825	Injection Date:	02/16/17
Lab File ID:	4B69375.D	Injection Time:	20:51
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	115466	6.80	270373	8.84	380211	9.71
Upper Limit ^a	230932	7.30	540746	9.34	760422	10.21
Lower Limit ^b	57733	6.30	135187	8.34	190106	9.21

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2855-MB2	151542	6.81	301772	8.84	411532	9.71
JC37020-2	153094	6.81	297965	8.84	406314	9.71
JC37020-13	153988	6.81	289591	8.84	401264	9.71
JC37020-19	155907	6.81	291305	8.84	401821	9.71
JC37020-8	141401	6.81	282550	8.84	390442	9.71
JC37020-9	137624	6.81	282415	8.84	393366	9.71
JC37020-3	136325	6.81	278602	8.84	389487	9.71

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2856-CC2825	Injection Date:	02/17/17
Lab File ID:	4B69386.D	Injection Time:	09:42
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
Check Std	131643	6.80	267437	8.84	381062	9.71
Upper Limit ^a	263286	7.30	534874	9.34	762124	10.21
Lower Limit ^b	65822	6.30	133719	8.34	190531	9.21

Lab Sample ID	IS 1 AREA	IS 2 AREA	IS 3 AREA	IS 4 AREA	IS 5 AREA	
V4B2856-MB	134146	6.81	287493	8.84	394022	9.71
V4B2856-BS	107842	6.80	263537	8.84	370789	9.71
JC37230-4	144660	6.81	284046	8.84	394662	9.71
JC37230-5	140044	6.81	284949	8.84	395989	9.71
ZZZZZZ	135543	6.81	285684	8.84	391831	9.71
ZZZZZZ	140179	6.81	282430	8.84	392182	9.71
ZZZZZZ	150567	6.81	278719	8.84	393757	9.71
JC37230-5MS	125764	6.80	280194	8.84	391733	9.71
JC37230-4DUP	145533	6.81	307453	8.84	422938	9.71
ZZZZZZ	150983	6.81	296509	8.84	411505	9.71
ZZZZZZ	132634	6.81	292050	8.84	402030	9.71
ZZZZZZ	140049	6.81	292541	8.84	409667	9.71
JC37020-4	139915	6.81	285313	8.84	399104	9.71
JC37020-5	137171	6.81	285186	8.84	400565	9.71
JC37020-6	134314	6.81	281888	8.84	396787	9.71
JC37020-7	131717	6.81	277045	8.84	386804	9.71
ZZZZZZ	134857	6.81	278324	8.84	393781	9.71
ZZZZZZ	134939	6.81	277464	8.84	389717	9.71

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC37020-1	4B69369.D	107	117	101	106
JC37020-2	4B69377.D	104	109	100	103
JC37020-3	4B69382.D	107	116	101	103
JC37020-4	4B69402.D	107	113	100	102
JC37020-5	4B69403.D	109	115	99	104
JC37020-6	4B69404.D	107	115	101	103
JC37020-7	4B69405.D	107	115	101	104
JC37020-8	4B69380.D	105	112	100	103
JC37020-9	4B69381.D	107	114	101	103
JC37020-10	4B69368.D	108	116	101	104
JC37020-11	4B69367.D	107	116	100	105
JC37020-12	4B69366.D	108	115	101	104
JC37020-13	4B69378.D	105	110	100	103
JC37020-14	4B69365.D	106	115	101	105
JC37020-15	4B69358.D	104	110	101	104
JC37020-16	4B69357.D	105	109	99	104
JC37020-17	4B69359.D	105	112	100	104
JC37020-18	4B69364.D	107	113	101	105
JC37020-19	4B69379.D	105	111	101	102
JC37020-16MS	4B69371.D	107	109	99	102
JC37020-16MSD	4B69372.D	104	104	100	102
JC37230-4DUP	4B69398.D	104	108	100	102
JC37230-5MS	4B69396.D	105	104	100	102
V4B2855-BS	4B69354.D	105	104	100	101
V4B2855-MB	4B69353.D	103	109	101	104
V4B2855-MB2	4B69376.D	103	107	101	101
V4B2856-BS	4B69388.D	105	105	101	101
V4B2856-MB	4B69387.D	104	109	101	102

Surrogate
Compounds

Recovery
Limits

S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%
S4 = 4-Bromofluorobenzene	78-117%

6.8.1
6

Initial Calibration Summary

Page 1 of 6

Job Number: JC37020**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report MS4B

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Calibration Files

1	=4B68764.D	0.5	=4B68763.D	100	=4B68767.D	50	=4B68758.D
20	=4B68757.D	200	=4B68759.D	5	=4B68765.D	2	=4B68756.D
10	=4B68766.D	0.2	=4B68762.D		=		=

Compound

	1	0.5	100	50	20	200	5	2	10	0.2	Avg	%RSD
--	---	-----	-----	----	----	-----	---	---	----	-----	-----	------

1)	tert butyl alcohol-d9	-----ISTD-----											
2)	tertiary butyl alcohol	1.449	1.273	1.304	1.281	1.241	1.329	1.219	1.338	1.304	5.44		
3)	1,4-dioxane	0.115	0.117	0.114	0.111	0.108		0.114	0.113	2.71			
4)	Ethanol								0.000#	-1.00			
5)	I pentafluorobenzene	-----ISTD-----											
6)	CHLOROTRIFLUOROETHENE								0.000#	-1.00			
7)	chlorodifluoromethane	0.673	0.821	0.815	0.809	0.793	0.832	0.816	0.768	0.791	6.52		
8)	dichlorodifluoromethane	0.632	0.571	0.711	0.753	0.706	0.737	0.677	0.685	0.702	0.686	8.07	
9)	Freon 114								0.000#	-1.00			
10)	chloromethane	0.332	0.315	0.350	0.349	0.349	0.327	0.384	0.386	0.352	0.343	8.63	
11)	vinyl chloride	0.870	0.932	0.927	0.947	0.926	0.892	0.911	0.907	0.951	0.882	2.95	
12)	bromomethane	0.414	0.415	0.436	0.417	0.336	0.454	0.492	0.421	0.423	10.42		
13)	chloroethane	0.406	0.410	0.418	0.432	0.421	0.378	0.371	0.405	0.433	0.408	5.28	
14)	vinyl bromide	0.537	0.518	0.586	0.603	0.595	0.559	0.573	0.580	0.605	0.552	0.571	5.07
15)	trichlorofluoromethane	0.697	0.801	0.838	0.800	0.774	0.771	0.780	0.817	0.785	5.36		
16)	1,3-butadiene	0.794	0.769	0.830	0.865	0.733	0.595	0.570	0.854	0.751	15.06		
17)	Pentane								0.000#	-1.00			
18)	freon 123a								0.000#	-1.00			
19)	ethyl ether	0.233	0.288	0.300	0.305	0.274	0.280	0.278	0.302	0.282	8.20		
20)	2-chloropropane	0.218	0.167	0.196	0.206	0.161	0.182	0.198	0.200	0.191	10.22		
21)	acrolein	0.126	0.135	0.103	0.111	0.112	0.099	0.111	0.113	0.109	0.113	9.79	
22)	1,1-dichloroethene	0.441	0.395	0.470	0.489	0.493	0.444	0.492	0.454	0.488	0.463	7.11	
23)	acetone												

6.9.1

6

Initial Calibration Summary**Job Number:** JC37020**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

24)	allyl chloride	0.046 0.404 ----- Quadratic regression ----- Response Ratio = 0.00219 + 0.42171 *A + -0.01592 *A^2	0.053 0.057 0.060 0.049 0.058 0.057 0.060 0.382 0.362 0.357 0.783 0.537 0.387 Coefficient = 0.9981	0.055	9.47
25)	acetonitrile	0.037 0.034 0.030 0.031 0.032 0.027 0.034 0.030 0.034		0.032	8.31
26)	iodomethane	0.964 1.053 0.953 0.999 1.008 0.958 0.766 0.770 0.999 1.053	0.952	10.84	
27)	carbon disulfide	1.326 1.516 1.559 1.667 1.669 1.528 1.156 1.211 1.570	1.467	12.94	
28)	methylene chloride	0.507 0.517 0.515 0.534 0.544 0.493 0.522 0.512 0.541	0.521	3.17	
29)	methyl acetate	0.080 0.081 0.081 0.076 0.078 0.063 0.085	0.078	9.13	
30)	1-chloropropane		0.000#	-1.00	
31)	methyl tert butyl ether	1.363 1.353 1.369 1.452 1.486 1.294 1.504 1.449 1.480 1.458	1.421	4.94	
32)	trans-1,2-dichloroethene	0.431 0.467 0.460 0.483 0.491 0.435 0.490 0.459 0.487 0.459	0.466	4.66	
33)	di-isopropyl ether	2.050 1.817 1.834 1.929 2.009 1.681 2.045 2.004 2.050 2.320	1.974	8.77	
34)	2-butanone	0.057 0.055 0.061 0.063 0.064 0.059 0.062 0.054 0.063	0.060	6.15	
35)	1,1-dichloroethane	0.844 0.920 0.899 0.955 0.979 0.839 0.981 0.925 1.009 1.062	0.941	7.49	
36)	chloroprene	0.761 0.631 0.764 0.788 0.796 0.713 0.793 0.755 0.798 0.820	0.762	7.19	
37)	acrylonitrile	0.197 0.192 0.196 0.203 0.211 0.186 0.205 0.191 0.210 0.215	0.201	4.79	
38)	vinyl acetate	0.096 0.099 0.095 0.094 0.087 0.082 0.097	0.093	6.58	
39)	ethyl tert-butyl ether	1.718 1.568 1.646 1.696 1.724 1.559 1.699 1.668 1.733 1.730	1.674	3.85	
40)	ethyl acetate	0.086 0.090 0.090 0.081 0.090 0.074 0.092	0.086	7.62	
41)	2,2-dichloropropane	0.457 0.486 0.424 0.485 0.508 0.386 0.477 0.455 0.500 0.491	0.467	8.07	
42)	cis-1,2-dichloroethene	0.512 0.467 0.513 0.544 0.549 0.486 0.536 0.519 0.561	0.521	5.87	
43)	methylacrylate	0.076 0.078 0.078 0.073 0.078 0.062 0.079	0.075	7.92	
44)	propionitrile	0.079 0.069 0.071 0.077 0.064 0.080 0.074 0.079	0.074	7.67	
45)	bromochloromethane	0.243 0.226 0.271 0.282 0.284 0.263 0.270 0.253 0.283 0.231	0.260	8.22	
46)	tetrahydrofuran	0.173 0.166 0.173 0.182 0.155 0.186 0.181 0.193	0.176	6.82	
47)	chloroform	0.589 0.657 0.537 0.559 0.573 0.506 0.579 0.539 0.574	0.568	7.42	
48)	T-BUTYL FORMATE	0.366 0.423 0.442 0.446 0.417 0.370 0.412 0.407	0.410	7.20	
49)	dibromofluoromethane (s)	0.416 0.418 0.427 0.429 0.426 0.430 0.420 0.420 0.421 0.416	0.422	1.23	
50)	1,2-dichloroethane-d4 (s)	0.467 0.460 0.445 0.452 0.458 0.442 0.465 0.461 0.472 0.452	0.457	2.11	
51)	freon 113	0.402 0.431 0.423 0.408 0.311	0.407	10.97	

6.9.1

6

Initial Calibration Summary**Job Number:** JC37020**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

52)	methacrylonitrile	0.388 0.375 0.353 0.365 0.361 0.335 0.398 0.365 0.378	0.369	5.08
53)	1,1,1-trichloroethane	0.650 0.640 0.676 0.708 0.698 0.654 0.631 0.595 0.685 0.656	0.659	5.11
54)	cyclohexane	0.699 0.682 0.666 0.768 0.734 0.700 0.572 0.548 0.712	0.676	10.66
55)	iso-butyl alcohol		0.000#	-1.00
56)	I 1,4-difluorobenzene	-----ISTD-----		
57)	epichlorohydrin	0.041 0.031 0.039 0.038 0.040 0.038 0.038 0.039 0.040	0.038	7.44
58)	n-butyl alcohol	0.011 0.010 0.012 0.010 0.015 0.010 0.014	0.012	17.25
59)	carbon tetrachloride	0.377 0.386 0.421 0.449 0.452 0.416 0.426 0.396 0.441 0.437	0.420	6.27
60)	1,1-dichloropropene	0.463 0.525 0.471 0.500 0.509 0.446 0.503 0.457 0.512 0.519	0.490	5.81
61)	hexane--The compound does not meet initial criteria.	0.542 0.461 0.565 0.633 0.621 0.573 0.577 0.616 0.583 0.571	0.574	8.51
62)	Tert Amyl alcohol	0.021 0.017 0.017 0.019 0.017 0.022 0.019 0.020	0.019	10.95
63)	benzene	1.369 1.441 1.347 1.418 1.439 1.273 1.451 1.383 1.462 1.732	1.432	8.41
64)	iso-octane	1.515 1.303 1.453 1.595 1.592 1.485 1.537 1.609 1.553 1.621	1.526	6.28
65)	tert-amyl methyl ether	0.228 0.212 0.222 0.229 0.235 0.213 0.245 0.227 0.240 0.179	0.223	8.34
66)	heptane	0.349 0.338 0.380 0.371 0.343 0.363 0.391 0.353	0.361	5.18
67)	isopropyl acetate	0.141 0.151 0.157 0.154 0.144 0.141 0.147 0.150	0.148	3.98
68)	1,2-dichloroethane	0.453 0.476 0.432 0.460 0.474 0.403 0.480 0.474 0.486 0.436	0.458	5.80
69)	trichloroethene	0.341 0.349 0.352 0.372 0.379 0.333 0.372 0.350 0.379 0.362	0.359	4.49
70)	Tert-amyl Ethyl Ether		0.000#	-1.00
71)	ethyl acrylate	0.446 0.509 0.468 0.477 0.477 0.446 0.479 0.430 0.473	0.467	5.00
72)	2-nitropropane	0.156 0.140 0.146 0.149 0.134 0.153 0.135 0.142	0.144	5.64
73)	2-chloroethyl vinyl ether	0.243 0.215 0.234 0.242 0.246 0.218 0.241 0.233 0.249 0.295	0.242	9.03
74)	methyl methacrylate	0.087 0.106 0.108 0.105 0.102 0.100 0.093 0.100	0.100	6.87
75)	1,2-dichloropropane	0.393 0.378 0.371 0.397 0.414 0.342 0.425 0.418 0.420 0.337	0.389	8.23
76)	dibromomethane	0.226 0.227 0.224 0.234 0.234 0.217 0.235 0.223 0.236 0.249	0.231	3.92
77)	methylcyclohexane	0.599 0.485 0.594 0.640 0.637 0.582 0.630 0.643 0.628 0.563	0.600	8.11
78)	bromodichloromethane	0.418 0.490 0.486 0.498 0.492 0.468 0.490 0.454 0.480 0.398	0.467	7.33
79)	cis-1,3-dichloropropene	0.588 0.589 0.643 0.673 0.669 0.622 0.649 0.615 0.650 0.546	0.624	6.49
80)	toluene-d8 (s)	1.156 1.150 1.150 1.155 1.153 1.161 1.153 1.159 1.153 1.158	1.155	0.31
81)	4-methyl-2-pentanone	0.163 0.176 0.143 0.152 0.162 0.133 0.167 0.158 0.163 0.172	0.159	8.36

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Initial Calibration Summary**Job Number:** JC37020**Sample:** V4B2825-ICC2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68758.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

82)	toluene	0.866 0.947 0.866 0.900 0.903 0.831 0.897 0.855 0.900 1.109 0.907	8.59
83)	3-methyl-1-butanol	0.018 0.016 0.015 0.015 0.017 0.014 0.017 0.017 0.018	0.016 7.96
84)	trans-1,3-dichloropropene	0.455 0.541 0.545 0.569 0.568 0.526 0.551 0.502 0.552 0.588 0.540	7.09
85)	ethyl methacrylate	0.456 0.505 0.516 0.513 0.483 0.521 0.461 0.508	0.495 5.14
86)	1,1,2-trichloroethane	0.272 0.289 0.295 0.295 0.278 0.312 0.283 0.296	0.290 4.31
87)	2-hexanone	0.166 0.151 0.159 0.169 0.142 0.176 0.169 0.174	0.163 7.13
88)	I chlorobenzene-d5	-----ISTD-----	
89)	tetrachloroethene	0.414 0.429 0.402 0.404 0.394 0.373 0.420 0.389 0.428 0.460 0.411	5.97
90)	1,3-dichloropropane	0.624 0.785 0.580 0.599 0.603 0.559 0.659 0.624 0.613 0.664 0.631	9.95
91)	butyl acetate	0.329 0.242 0.294 0.293 0.294 0.291 0.301 0.277 0.303	0.291 7.94
92)	3,3-DIMETHYL-1-BUTANOL	0.041 0.036 0.035 0.033 0.036 0.034 0.035 0.035 0.038	0.036 6.50
93)	dibromochloromethane	0.296 0.403 0.458 0.448 0.416 0.458 0.389 0.355 0.389 0.331 0.394	13.79
94)	1,2-dibromoethane	0.389 0.481 0.420 0.421 0.405 0.415 0.401 0.393 0.408 0.409 0.414	6.19
95)	n-butyl ether	1.756 2.043 1.873 1.896 1.857 1.785 1.828 1.686 1.833 2.267 1.882	8.74
96)	chlorobenzene	1.054 1.221 1.085 1.107 1.092 1.057 1.110 1.054 1.094 1.282 1.116	6.81
97)	1,1,1,2-tetrachloroethane	0.350 0.469 0.401 0.408 0.396 0.394 0.400 0.371 0.394 0.388 0.397	7.65
98)	ethylbenzene	1.794 1.929 1.767 1.824 1.824 1.681 1.882 1.803 1.835 2.262 1.860	8.39
99)	m,p-xylene	0.665 0.759 0.717 0.727 0.714 0.703 0.738 0.707 0.723 0.840 0.729	6.27
100)	o-xylene	0.666 0.766 0.749 0.760 0.737 0.731 0.741 0.705 0.736 0.706 0.730	4.09
101)	styrene	1.150 1.425 1.227 1.261 1.249 1.199 1.281 1.191 1.245 1.534 1.276	9.14
102)	bromoform	0.175 0.354 0.334 0.289 0.255 0.225 0.251	0.269 23.17
		----- Linear regression ----- Coefficient = 0.9941	
		Response Ratio = -0.00541 + 0.34174 *A	
103)	I 1,4-dichlorobenzene-d	-----ISTD-----	
104)	isopropylbenzene	3.060 3.382 3.078 3.289 3.303 2.973 3.414 3.071 3.336 3.870 3.278	7.92
105)	4-bromofluorobenzene (s)	0.828 0.817 0.799 0.809 0.815 0.819 0.832 0.822 0.822 0.824 0.819	1.16
106)	cyclohexanone	0.171 0.142 0.152 0.163 0.126 0.198 0.164 0.175	0.161 13.49
107)	bromobenzene	0.913 1.138 0.885 0.938 0.930 0.873 0.992 0.922 0.958	0.950 8.32
108)	1,1,2,2-tetrachloroethane	0.846 0.877 0.914 0.904 0.854 1.021 0.870 0.906	0.899 6.15
109)	trans-1,4-dichloro-2-butene--The compound does not meet initial criteria.	0.196 0.187 0.155 0.208 0.137 0.120 0.116	0.160 23.36
		----- Linear regression ----- Coefficient = 0.9944	

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Initial Calibration Summary

Job Number: JC37020

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Ratio = -0.00659 + 0.20133 *A

110)	1,2,3-trichloropropane	0.200	0.218	0.225	0.230	0.214	0.260	0.220	0.232	0.225	7.81	
111)	n-propylbenzene	3.704	3.557	3.814	3.877	3.450	4.033	3.814	3.941	3.774	5.17	
112)	4-ETHYLTOLUENE									0.000#	-1.00	
113)	2-chlorotoluene	0.777	0.893	0.794	0.836	0.826	0.786	0.854	0.796	0.839	0.823	4.58
114)	4-chlorotoluene	2.317	2.245	2.380	2.376	2.181	2.499	2.336	2.407	2.343	4.19	
115)	1,3,5-trimethylbenzene	2.567	2.914	2.526	2.709	2.737	2.417	2.852	2.703	2.770	2.688	5.92
116)	tert-butylbenzene	2.338	2.716	2.386	2.539	2.527	2.291	2.589	2.401	2.534	2.480	5.47
117)	pentachloroethane	0.452	0.523	0.564	0.565	0.559	0.525	0.516	0.501	0.526	7.27	
118)	1,2,4-trimethylbenzene	2.564	2.608	2.819	2.852	2.467	2.941	2.751	2.877	2.735	6.20	
119)	sec-butylbenzene	3.473	3.585	3.852	3.835	3.427	3.852	3.577	3.842	3.680	4.99	
120)	1,3-dichlorobenzene	1.829	1.663	1.781	1.798	1.601	1.905	1.789	1.842	1.776	5.55	
121)	p-isopropyltoluene	2.947	3.143	3.379	3.396	2.961	3.370	3.066	3.351	3.201	6.07	
122)	1,4-dichlorobenzene	1.733	1.666	1.771	1.761	1.616	1.821	1.714	1.757	1.730	3.73	
123)	benzyl chloride	1.411	1.356	1.623	1.747	1.688	1.642	1.428	1.408	1.472	1.530	9.42
124)	1,2-dichlorobenzene	1.723	1.625	1.759	1.802	1.540	1.833	1.743	1.763	1.724	5.58	
125)	1,4-DIETHYLBENZENE									0.000#	-1.00	
126)	n-butylbenzene	1.557	1.777	1.662	1.819	1.809	1.557	1.712	1.601	1.762	1.695	6.18
127)	1,2,4,5-TETRAMETHYLBENZENE									0.000#	-1.00	
128)	1,2-dibromo-3-chloropropane	0.160	0.165	0.156	0.157	0.155	0.126	0.155	0.155	0.153	8.14	
129)	1,3,5-TRICHLOROBENZENE	1.396	1.482	1.616	1.664	1.396	1.577	1.462	1.593	1.523	6.75	
130)	1,2,4-trichlorobenzene	1.227	1.358	1.463	1.478	1.298	1.379	1.226	1.415	1.356	7.22	
131)	hexachlorobutadiene	0.763	0.908	0.724	0.799	0.835	0.695	0.831	0.771	0.831	0.795	8.17
132)	naphthalene	2.358	2.431	2.576	2.568	2.342	2.557	2.255	2.525	2.451	5.00	
133)	1,2,3-trichlorobenzene	1.109	1.190	1.260	1.264	1.149	1.233	1.112	1.230	1.193	5.31	
134)	hexachloroethane	0.642	0.664	0.617	0.638	0.534	0.536	0.560	0.599	0.599	9.08	
135)	2-ethylhexyl acrylate--The compound does not meet initial criteria.	0.350	0.306	0.233	0.407	0.167	0.187	0.192	0.263	35.08		
	----- Linear regression ----- Coefficient = 0.9943											
	Response Ratio = -0.01085 + 0.40945 *A											
136)	2-methylnaphthalene--The compound does not meet initial criteria.	0.650	0.658	0.578	0.674	0.468	0.531	0.593	13.86			

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Initial Calibration Summary

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Job Number: JC37020

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

137) I pentafluorobenzene(a) -----ISTD-----

138) Freon 142B

0.473 0.459 0.567 0.539 0.210 0.376 0.437 29.69

----- Linear regression ----- Coefficient = 0.9931

Response Ratio = -0.02771 + 0.52631 *A

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4B2825.M Tue Jan 31 17:17:16 2017 GCMS4B

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Initial Calibration Verification

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Job Number: JC37020

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\4B68770.D Vial: 17
 Acq On : 27 Jan 2017 6:19 pm Operator: Hueanht
 Sample : icv2825-50 Inst : MS4B
 Misc : MS11826,V4B2825,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
<hr/>							
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	93	0.00
2 M	tertiary butyl alcohol	250.00	1.304	1.375	-5.4	98	0.00
3 M	1,4-dioxane	1250.00	0.113	0.119	-5.3	95	0.00
4	Ethanol				-----NA-----		
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	98	0.00
6	CHLOROTRIFLUOROETHENE				-----NA-----		
7 M	chlorodifluoromethane	50.00	0.791	0.726	8.2	88	-0.01
8 M	dichlorodifluoromethane	50.00	0.686	0.734	-7.0	96	-0.01
9	Freon 114				-----NA-----		
10 M	chloromethane	50.00	0.343	0.385	-12.2	109	0.01
11 M	v vinyl chloride	50.00	0.914	0.936	-2.4	97	0.00
12 M	bromomethane	50.00	0.423	0.434	-2.6	98	0.00
13 M	chloroethane	50.00	0.408	0.395	3.2	90	0.01
14	v vinyl bromide	50.00	0.571	0.582	-1.9	95	0.00
15 M	trichlorofluoromethane	50.00	0.785	0.818	-4.2	96	-0.02
16	1,3-butadiene	50.00	0.751	0.669	10.9	79	0.00
17	Pentane				-----NA-----		
18	freon 123a				-----NA-----		
19 M	ethyl ether	50.00	0.282	0.291	-3.2	96	0.00
20	2-chloropropane	50.00	0.191	0.157	17.8	79	0.00
21 M	acrolein	500.00	0.113	0.102	9.7	91	0.00
22 M	1,1-dichloroethene	50.00	0.463	0.503	-8.6	101	0.00
23 M	acetone	250.00	0.055	0.055	0.0	95	0.00
<hr/>							
24 M	allyl chloride	50.00	0.146	92.583	-85.2#	187	0.00
<hr/>							
25 M	acetonitrile	500.00	0.032	0.029	9.4	90	0.00
26 M	iodomethane	50.00	0.952	0.808	15.1	80	-0.03
27 M	carbon disulfide	50.00	1.467	1.242	15.3	73	0.00
28 M	methylene chloride	50.00	0.521	0.516	1.0	95	0.00
29 M	methyl acetate	50.00	0.078	0.079	-1.3	96	0.00
30	1-chloropropane				-----NA-----		
31 M	methyl tert butyl ether	50.00	1.421	1.381	2.8	94	0.00
32 M	trans-1,2-dichloroethene	50.00	0.466	0.462	0.9	94	0.00
33 M	di-isopropyl ether	50.00	1.974	1.936	1.9	99	0.00
34 M	2-butanone	250.00	0.060	0.059	1.7	93	0.00
35 M	1,1-dichloroethane	50.00	0.941	0.941	0.0	97	0.00
36 M	chloroprene	50.00	0.762	0.782	-2.6	98	0.00
37 M	acrylonitrile	250.00	0.201	0.197	2.0	96	0.00

Initial Calibration Verification

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-ICV2825

Lab FileID: 4B68770.D

38 M	vinyl acetate	50.00	0.093	0.092	1.1	92	0.00	7.66
39 M	ethyl tert-butyl ether	50.00	1.674	1.712	-2.3	99	0.00	8.11
40 M	ethyl acetate	50.00	0.086	0.094	-9.3	102	0.00	8.31
41 M	2,2-dichloropropane	50.00	0.467	0.432	7.5	88	0.00	8.39
42 M	cis-1,2-dichloroethene	50.00	0.521	0.529	-1.5	96	0.00	8.37
43	methylacrylate	50.00	0.075	0.076	-1.3	96	0.00	8.39
44 M	propionitrile	500.00	0.074	0.069	6.8	96	0.00	8.39
45 M	bromochloromethane	50.00	0.260	0.279	-7.3	97	0.00	8.65
46 M	tetrahydrofuran	50.00	0.176	0.166	5.7	94	0.00	8.66
47 M	chloroform	50.00	0.568	0.549	3.3	97	0.00	8.71
48 M	T-BUTYL FORMATE	50.00	0.410	0.297	27.6	66	0.00	8.75
49 S	dibromofluoromethane (s)	50.00	0.422	0.424	-0.5	97	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.446	2.4	97	0.00	9.29
51 M	freon 113	50.00	0.397	0.469	-18.1	107	0.00	6.26
52 M	methacrylonitrile	50.00	0.369	0.346	6.2	93	0.00	8.56
53 M	1,1,1-trichloroethane	50.00	0.659	0.644	2.3	90	0.00	8.95
54 M	cyclohexane	50.00	0.676	0.575	14.9	74	0.00	9.05
55	iso-butyl alcohol				-----NA-----			
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	97	0.00	9.72
57 M	epichlorohydrin	250.00	0.038	0.036	5.3	93	0.00	10.87
58 M	n-butyl alcohol	2500.00	0.012	0.010#	16.7	92	0.00	9.75
59 M	carbon tetrachloride	50.00	0.420	0.417	0.7	90	0.00	9.14
60 M	1,1-dichloropropene	50.00	0.490	0.496	-1.2	96	0.00	9.11
61 M	hexane	50.00	0.574	0.281	51.0#	43#	0.00	7.52
62	Tert Amyl alcohol	250.00	0.019	0.032	-68.4#	184	0.00	9.21
63 M	benzene	50.00	1.432	1.404	2.0	96	0.00	9.35
64 m	iso-octane	50.00	1.526	1.409	7.7	86	0.00	9.42
65 M	tert-amyl methyl ether	50.00	0.223	0.237	-6.3	100	0.00	9.40
66 M	heptane	50.00	0.361	0.362	-0.3	93	0.00	9.56
67 M	isopropyl acetate	50.00	0.148	0.153	-3.4	95	0.00	9.24
68 M	1,2-dichloroethane	50.00	0.458	0.448	2.2	95	0.00	9.37
69 M	trichloroethene	50.00	0.359	0.372	-3.6	97	0.00	10.02
70	Tert-amyl Ethyl Ether				-----NA-----			
71	ethyl acrylate	50.00	0.467	0.461	1.3	94	0.00	9.99
72 M	2-nitropropane	50.00	0.144	0.141	2.1	94	0.00	10.75
73 M	2-chloroethyl vinyl ether	250.00	0.242	0.251	-3.7	101	0.00	10.77
74 M	methyl methacrylate	50.00	0.100	0.099	1.0	89	0.00	10.24
75 M	cis-1,2-dichloropropene	50.00	0.389	0.389	0.0	95	0.00	10.30
76 M	dibromomethane	50.00	0.231	0.230	0.4	95	0.00	10.41
77 M	methylcyclohexane	50.00	0.600	0.602	-0.3	91	0.00	10.30
78 M	bromodichloromethane	50.00	0.467	0.496	-6.2	97	0.00	10.55
79 M	cis-1,3-dichloropropene	50.00	0.624	0.660	-5.8	95	0.00	11.00
80 S	toluene-d8 (s)	50.00	1.155	1.153	0.2	97	0.00	11.31
81 M	4-methyl-2-pentanone	250.00	0.159	0.147	7.5	94	0.00	11.09
82 M	toluene	50.00	0.907	0.895	1.3	97	0.00	11.39
83 M	3-methyl-1-butanol	1000.00	0.016	0.014	12.5	89	0.00	11.08
84 M	trans-1,3-dichloropropene	50.00	0.540	0.559	-3.5	95	0.00	11.57
85 M	ethyl methacrylate	50.00	0.495	0.498	-0.6	94	0.00	11.55
86 M	1,1,2-trichloroethane	50.00	0.290	0.295	-1.7	97	0.00	11.81
87 M	2-hexanone	250.00	0.163	0.151	7.4	92	0.00	11.97
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	97	0.00	12.91
89 M	tetrachloroethene	50.00	0.411	0.446	-8.5	107	0.00	11.96
90 M	1,3-dichloropropane	50.00	0.631	0.588	6.8	95	0.00	12.00
91 M	butyl acetate	50.00	0.291	0.287	1.4	95	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	500.00	0.036	0.029	19.4	85	0.00	12.16
93 M	dibromochloromethane	50.00	0.394	0.443	-12.4	96	0.00	12.27
94 M	1,2-dibromoethane	50.00	0.414	0.412	0.5	95	0.00	12.43
95	n-butyl ether	50.00	1.882	1.888	-0.3	97	0.00	12.88

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Initial Calibration Verification

Job Number: JC37020

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	50.00	1.116	1.100	1.4	97	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	50.00	0.397	0.403	-1.5	96	0.00	13.01
98 M	ethylbenzene	50.00	1.860	1.815	2.4	97	0.00	13.00
99 M	m,p-xylene	100.00	0.729	0.722	1.0	97	0.00	13.13
100 M	o-xylene	50.00	0.730	0.747	-2.3	96	0.00	13.57
101 M	styrene	50.00	1.276	1.240	2.8	96	0.00	13.59
-----TrueValue CC-RF Calc. % Drift ----- R.T.								
102 M	bromoform	50.00	0.322	47.916	4.2	94	0.00	13.84

103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	96	0.00	15.48
104 M	isopropylbenzene	50.00	3.278	3.262	0.5	95	0.00	13.95
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.817	0.2	97	0.00	14.18
106	cyclohexanone	500.00	0.161	0.150	6.8	94	0.00	14.11
107 M	bromobenzene	50.00	0.950	0.933	1.8	95	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	50.00	0.899	0.878	2.3	92	0.00	14.27

109 M	trans-1,4-dichloro-2-butene	50.00	0.193	49.529	0.9	99	0.00	14.30
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110 M	1,2,3-trichloropropane	50.00	0.225	0.220	2.2	94	0.00	14.37
111 M	n-propylbenzene	50.00	3.774	3.758	0.4	94	0.00	14.41
112	4-ETHYLtoluene	-----NA-----						
113 M	2-chlorotoluene	50.00	0.823	0.830	-0.9	95	0.00	14.57
114 M	4-chlorotoluene	50.00	2.343	2.353	-0.4	95	0.00	14.69
115 M	1,3,5-trimethylbenzene	50.00	2.688	2.667	0.8	94	0.00	14.59
116 M	tert-butylbenzene	50.00	2.480	2.514	-1.4	95	0.00	14.97
117 M	pentachloroethane	50.00	0.526	0.474	9.9	81	0.00	15.05
118 M	1,2,4-trimethylbenzene	50.00	2.735	2.761	-1.0	94	0.00	15.03
119 M	sec-butylbenzene	50.00	3.680	3.802	-3.3	95	0.00	15.21
120 M	1,3-dichlorobenzene	50.00	1.776	1.758	1.0	95	0.00	15.40
121 M	p-isopropyltoluene	50.00	3.201	3.308	-3.3	94	0.00	15.36
122 M	1,4-dichlorobenzene	50.00	1.730	1.737	-0.4	94	0.00	15.51
123	benzyl chloride	50.00	1.530	1.102	28.0	60	0.00	15.61
124 M	1,2-dichlorobenzene	50.00	1.724	1.745	-1.2	95	0.00	15.93
125	1,4-DIETHYLBENZENE	-----NA-----						
126 M	n-butylbenzene	50.00	1.695	1.760	-3.8	93	0.00	15.82
127	1,2,4,5-TETRAMETHYLBENZEN	-----NA-----						
128 M	1,2-dibromo-3-chloropropane	50.00	0.153	0.162	-5.9	94	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	50.00	1.523	1.587	-4.2	94	0.00	16.97
130 M	1,2,4-trichlorobenzene	50.00	1.356	1.419	-4.6	93	0.00	17.66
131 M	hexachlorobutadiene	50.00	0.795	0.773	2.8	93	0.00	17.77
132 M	naphthalene	50.00	2.451	2.459	-0.3	92	0.00	17.97
133 M	1,2,3-trichlorobenzene	50.00	1.193	1.226	-2.8	93	0.00	18.21
134 m	hexachloroethane	50.00	0.599	0.650	-8.5	94	0.00	16.25

135	2-ethylhexyl acrylate	10.00	0.055	8.028	19.7	86	0.00	17.66
136	2-methylnaphthalene	-----NA-----						

137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	102	0.00	8.84
138	Freon 142B	-----NA-----						

6.9.2
6

Initial Calibration Verification

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-ICV2825

Lab FileID: 4B68770.D

Page 4 of 4

(#) = Out of Range
4B68758.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Tue Jan 31 17:15:31 2017 GCMS4B

6.9.2

Initial Calibration Verification

Job Number: JC37020

Sample: V4B2828-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68840.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\4B68840.D Vial: 12
 Acq On : 31 Jan 2017 4:10 am Operator: Hueanht
 Sample : icv2825-50 Inst : MS4B
 Misc : MS12037,V4B2828,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	114	0.00
2 M	tertiary butyl alcohol		-----	NA-----			
3 M	1,4-dioxane		-----	NA-----			
4	Ethanol		-----	NA-----			
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	92	0.00
6	CHLOROTRIFLUOROETHENE		-----	NA-----			
7 M	chlorodifluoromethane		-----	NA-----			
8 M	dichlorodifluoromethane		-----	NA-----			
9	Freon 114		-----	NA-----			
10 M	chloromethane		-----	NA-----			
11 M	vinyl chloride		-----	NA-----			
12 M	bromomethane		-----	NA-----			
13 M	chloroethane		-----	NA-----			
14	vinyl bromide		-----	NA-----			
15 M	trichlorofluoromethane		-----	NA-----			
16	1,3-butadiene		-----	NA-----			
17	Pentane		-----	NA-----			
18	freon 123a		-----	NA-----			
19 M	ethyl ether		-----	NA-----			
20	2-chloropropane		-----	NA-----			
21 M	acrolein		-----	NA-----			
22 M	1,1-dichloroethene		-----	NA-----			
23 M	acetone		-----	NA-----			
24 M	allyl chloride		-----	NA-----			
25 M	acetonitrile		-----	NA-----			
26 M	iodomethane		-----	NA-----			
27 M	carbon disulfide		-----	NA-----			
28 M	methylene chloride		-----	NA-----			
29 M	methyl acetate		-----	NA-----			
30	1-chloropropane		-----	NA-----			
31 M	methyl tert butyl ether		-----	NA-----			
32 M	trans-1,2-dichloroethene		-----	NA-----			
33 M	di-isopropyl ether		-----	NA-----			
34 M	2-butanone		-----	NA-----			
35 M	1,1-dichloroethane		-----	NA-----			
36 M	chloroprene		-----	NA-----			
37 M	acrylonitrile		-----	NA-----			
38 M	vinyl acetate		-----	NA-----			
39 M	ethyl tert-butyl ether		-----	NA-----			
40 M	ethyl acetate		-----	NA-----			
41 M	2,2-dichloropropane		-----	NA-----			

Initial Calibration Verification

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-ICV2825
Lab FileID: 4B68840.D

42 M	cis-1,2-dichloroethene		-----	-NA-----								
43	methylacrylate		-----	-NA-----								
44 M	propionitrile		-----	-NA-----								
45 M	bromochloromethane		-----	-NA-----								
46 M	tetrahydrofuran		-----	-NA-----								
47 M	chloroform		-----	-NA-----								
48 M	T-BUTYL FORMATE		-----	-NA-----								
49 S	dibromofluoromethane (s)	50.00	0.422	0.440	-4.3	94	0.00	8.89				
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.499	-9.2	101	0.00	9.29				
51 M	freon 113		-----	-NA-----								
52 M	methacrylonitrile		-----	-NA-----								
53 M	1,1,1-trichloroethane		-----	-NA-----								
54 M	cyclohexane		-----	-NA-----								
55	iso-butyl alcohol		-----	-NA-----								
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	92	0.00	9.72				
57 M	epichlorohydrin		-----	-NA-----								
58 M	n-butyl alcohol		-----	-NA-----								
59 M	carbon tetrachloride		-----	-NA-----								
60 M	1,1-dichloropropene		-----	-NA-----								
61 M	hexane		-----	-NA-----								
62	Tert Amyl alcohol		-----	-NA-----								
63 M	benzene		-----	-NA-----								
64 m	iso-octane		-----	-NA-----								
65 M	tert-amyl methyl ether		-----	-NA-----								
66 M	heptane		-----	-NA-----								
67 M	isopropyl acetate		-----	-NA-----								
68 M	1,2-dichloroethane		-----	-NA-----								
69 M	trichloroethene		-----	-NA-----								
70	Tert-amyl Ethyl Ether		-----	-NA-----								
71	ethyl acrylate		-----	-NA-----								
72 M	2-nitropropane		-----	-NA-----								
73 M	2-chloroethyl vinyl ether		-----	-NA-----								
74 M	methyl methacrylate		-----	-NA-----								
75 M	1,2-dichloropropane		-----	-NA-----								
76 M	dibromomethane		-----	-NA-----								
77 M	methylcyclohexane		-----	-NA-----								
78 M	bromodichloromethane		-----	-NA-----								
79 M	cis-1,3-dichloropropene		-----	-NA-----								
80 S	toluene-d8 (s)	50.00	1.155	1.163	-0.7	92	0.00	11.31				
81 M	4-methyl-2-pentanone		-----	-NA-----								
82 M	toluene		-----	-NA-----								
83 M	3-methyl-1-butanol		-----	-NA-----								
84 M	trans-1,3-dichloropropene		-----	-NA-----								
85 M	ethyl methacrylate		-----	-NA-----								
86 M	1,1,2-trichloroethane		-----	-NA-----								
87 M	2-hexanone		-----	-NA-----								
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	94	0.00	12.90				
89 M	tetrachloroethene		-----	-NA-----								
90 M	1,3-dichloropropane		-----	-NA-----								
91 M	butyl acetate		-----	-NA-----								
92 M	3,3-DIMETHYL-1-BUTANOL		-----	-NA-----								
93 M	dibromochloromethane		-----	-NA-----								
94 M	1,2-dibromoethane		-----	-NA-----								
95	n-butyl ether		-----	-NA-----								
96 M	chlorobenzene		-----	-NA-----								
97 M	1,1,2-tetrachloroethane		-----	-NA-----								
98 M	ethylbenzene		-----	-NA-----								
99 M	m,p-xylene		-----	-NA-----								

Initial Calibration Verification

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-ICV2825

Lab FileID: 4B68840.D

100 M	o-xylene		-----	-NA-----								
101 M	styrene		-----	-NA-----								
102 M	bromoform		-----	-NA-----								
103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	90	0.00	15.48				
104 M	isopropylbenzene		-----	-NA-----								
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.826	-0.9	92	0.00	14.18				
106	cyclohexanone		-----	-NA-----								
107 M	bromobenzene		-----	-NA-----								
108 M	1,1,2,2-tetrachloroethane		-----	-NA-----								
109 M	trans-1,4-dichloro-2-bute		-----	-NA-----								
110 M	1,2,3-trichloropropane		-----	-NA-----								
111 M	n-propylbenzene		-----	-NA-----								
112	4-ETHYLTOLUENE		-----	-NA-----								
113 M	2-chlorotoluene		-----	-NA-----								
114 M	4-chlorotoluene		-----	-NA-----								
115 M	1,3,5-trimethylbenzene		-----	-NA-----								
116 M	tert-butylbenzene		-----	-NA-----								
117 M	pentachloroethane		-----	-NA-----								
118 M	1,2,4-trimethylbenzene		-----	-NA-----								
119 M	sec-butylbenzene		-----	-NA-----								
120 M	1,3-dichlorobenzene		-----	-NA-----								
121 M	p-isopropyltoluene		-----	-NA-----								
122 M	1,4-dichlorobenzene		-----	-NA-----								
123	benzyl chloride		-----	-NA-----								
124 M	1,2-dichlorobenzene		-----	-NA-----								
125	1,4-DIETHYLBENZENE		-----	-NA-----								
126 M	n-butylbenzene		-----	-NA-----								
127	1,2,4,5-TETRAMETHYLBENZEN		-----	-NA-----								
128 M	1,2-dibromo-3-chloropropa		-----	-NA-----								
129	1,3,5-TRICHLOROBENZENE		-----	-NA-----								
130 M	1,2,4-trichlorobenzene		-----	-NA-----								
131 M	hexachlorobutadiene		-----	-NA-----								
132 M	naphthalene		-----	-NA-----								
133 M	1,2,3-trichlorobenzene		-----	-NA-----								
134 m	hexachloroethane		-----	-NA-----								
135	2-ethylhexyl acrylate		-----	-NA-----								
136	2-methylnaphthalene		-----	-NA-----								
137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	95	0.00	8.84				

	-----	TrueValue	CC-RF	Calc.	% Drift	-----	R.T.	
138	Freon 142B	50.00	0.420	42.546	14.9	87	0.00	4.11

(#= Out of Range
4B68758.D M4B2825.MSPCC's out = 0 CCC's out = 0
Tue Jan 31 17:12:12 2017 GCMS4B

Continuing Calibration Summary

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69352.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2855\4B69352.D Vial: 2
 Acq On : 16 Feb 2017 9:44 am Operator: Hueanht
 Sample : cc2825-20 Inst : MS4B
 Misc : MS12524,V4B2855,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	87	0.00
2 M	tertiary butyl alcohol	1.304	1.342	-2.9	91	0.00
3 M	1,4-dioxane	0.113	0.115	-1.8	88	0.00
4	Ethanol			-----NA-----		
5 I	pentafluorobenzene	1.000	1.000	0.0	93	0.00
6	CHLOROTRIFLUOROETHENE			-----NA-----		
7 M	chlorodifluoromethane	0.791	0.917	-15.9	106	-0.01
8 M	dichlorodifluoromethane	0.686	0.665	3.1	88	0.00
9	Freon 114			-----NA-----		
10 M	chloromethane	0.343	0.334	2.6	89	0.01
11 M	vinyl chloride	0.914	0.823	10.0	83	0.00
12 M	bromomethane	0.423	0.478	-13.0	107	0.00
13 M	chloroethane	0.408	0.435	-6.6	96	0.00
14	vinyl bromide	0.571	0.550	3.7	86	0.00
15 M	trichlorofluoromethane	0.785	0.771	1.8	90	-0.01
16	1,3-butadiene	0.751	0.691	8.0	74	-0.03
17	Pentane			-----NA-----		
18	freon 123a			-----NA-----		
19 M	ethyl ether	0.282	0.293	-3.9	89	0.00
20	2-chloropropane	0.191	0.172	9.9	78	0.00
21 M	acrolein	0.113	0.105	7.1	87	0.00
22 M	1,1-dichloroethene	0.463	0.481	-3.9	91	0.00
23 M	acetone	0.055	0.045	18.2	71	0.00
24 M	allyl chloride	20.000	34.745	True -73.7#	185	0.00
			AvgRF	CCRF	% Dev	-----
25 M	acetonitrile	0.032	0.036	-12.5	108	0.00
26 M	iodomethane	0.952	0.779	18.2	72	-0.03
27 M	carbon disulfide	1.467	1.267	13.6	71	0.00
28 M	methylene chloride	0.521	0.541	-3.8	93	0.00
29 M	methyl acetate	0.078	0.080	-2.6	92	0.00
30	1-chloropropane			-----NA-----		
31 M	methyl tert butyl ether	1.421	1.427	-0.4	89	0.00
32 M	trans-1,2-dichloroethene	0.466	0.480	-3.0	91	0.00
33 M	di-isopropyl ether	1.974	2.063	-4.5	96	0.00
34 M	2-butanone	0.060	0.056	6.7	82	0.00
35 M	1,1-dichloroethane	0.941	0.984	-4.6	94	0.00
36 M	chloroprene	0.762	0.818	-7.3	96	0.00
37 M	acrylonitrile	0.201	0.204	-1.5	90	0.00

Continuing Calibration Summary

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69352.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.089	4.3	87	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.690	-1.0	91	0.00	8.11
40 M	ethyl acetate	0.086	0.089	-3.5	93	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.481	-3.0	88	0.00	8.40
42 M	cis-1,2-dichloroethene	0.521	0.551	-5.8	93	0.00	8.37
43	methylacrylate	0.075	0.074	1.3	88	0.00	8.39
44 M	propionitrile	0.074	0.076	-2.7	92	0.00	8.38
45 M	bromochloromethane	0.260	0.278	-6.9	91	0.00	8.64
46 M	tetrahydrofuran	0.176	0.174	1.1	89	0.00	8.66
47 M	chloroform	0.568	0.580	-2.1	94	0.00	8.71
48 M	T-BUTYL FORMATE	0.410	0.394	3.9	82	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.439	-4.0	96	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.490	-7.2	100	0.00	9.29
51 M	freon 113	0.397	0.335	15.6	74	-0.01	6.24
52 M	methacrylonitrile	0.369	0.360	2.4	93	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.676	-2.6	90	0.00	8.95
54 M	cyclohexane	0.676	0.583	13.8	74	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	9.71
57 M	epichlorohydrin	0.038	0.039	-2.6	90	0.00	10.87
58 M	n-butyl alcohol	0.012	0.012	0.0	91	0.00	9.75
59 M	carbon tetrachloride	0.420	0.435	-3.6	90	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.511	-4.3	94	0.00	9.11
61 M	hexane	0.574	0.588	-2.4	88	0.00	7.52
62	Tert Amyl alcohol	0.019	0.016	15.8	81	0.00	9.20
63 M	benzene	1.432	1.440	-0.6	93	0.00	9.34
64 m	iso-octane	1.526	1.533	-0.5	90	0.00	9.42
65 M	tert-amyl methyl ether	0.223	0.230	-3.1	91	0.00	9.40
66 M	heptane	0.361	0.386	-6.9	97	0.00	9.55
67 M	isopropyl acetate	0.148	0.166	-12.2	100	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.501	-9.4	98	0.00	9.37
69 M	trichloroethene	0.359	0.374	-4.2	92	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.444	4.9	87	0.00	9.99
72 M	2-nitropropane	0.144	0.149	-3.5	93	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.244	-0.8	92	0.00	10.77
74 M	methyl methacrylate	0.100	0.096	4.0	85	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.418	-7.5	94	0.00	10.30
76 M	dibromomethane	0.231	0.240	-3.9	96	0.00	10.41
77 M	methylcyclohexane	0.600	0.619	-3.2	90	0.00	10.30
78 M	bromodichloromethane	0.467	0.521	-11.6	99	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.651	-4.3	91	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.169	-1.2	94	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.155	2.5	90	0.00	11.10
82 M	toluene	0.907	0.891	1.8	92	0.00	11.38
83 M	3-methyl-1-butanol	0.016	0.017	-6.3	94	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.557	-3.1	91	0.00	11.58
85 M	ethyl methacrylate	0.495	0.470	5.1	85	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.301	-3.8	95	0.00	11.81
87 M	2-hexanone	0.163	0.149	8.6	82	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	95	0.00	12.91
89 M	tetrachloroethene	0.411	0.386	6.1	93	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.610	3.3	96	0.00	12.00
91 M	butyl acetate	0.291	0.278	4.5	90	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.033	8.3	89	0.00	12.15
93 M	dibromochloromethane	0.394	0.422	-7.1	96	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.397	4.1	93	0.00	12.43
95	n-butyl ether	1.882	1.678	10.8	85	0.00	12.88

6.9.4

Continuing Calibration Summary

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69352.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.059	5.1	92	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.401	-1.0	96	0.00	13.00
98 M	ethylbenzene	1.860	1.797	3.4	93	0.00	13.00
99 M	m,p-xylene	0.729	0.689	5.5	91	0.00	13.13
100 M	o-xylene	0.730	0.708	3.0	91	0.00	13.57
101 M	styrene	1.276	1.202	5.8	91	0.00	13.59
-----		True	Calc.	% Drift	-----	-----	-----
102 M	bromoform	20.000	18.150	9.3	97	0.00	13.84

-----		AvgRF	CCRF	% Dev	-----	-----	-----
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	93	0.00	15.48
104 M	isopropylbenzene	3.278	3.208	2.1	90	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.828	-1.1	95	0.00	14.18
106	cyclohexanone	0.161	0.061	62.1#	35#	0.00	14.11
107 M	bromobenzene	0.950	0.928	2.3	93	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.913	-1.6	94	0.00	14.27
-----		True	Calc.	% Drift	-----	-----	-----
109 M	trans-1,4-dichloro-2-bute	20.000	9.854	50.7#	50	0.00	14.30

-----		AvgRF	CCRF	% Dev	-----	-----	-----
110 M	1,2,3-trichloropropane	0.225	0.221	1.8	89	0.00	14.36
111 M	n-propylbenzene	3.774	3.865	-2.4	93	0.00	14.41
112	4-ETHYL TOLUENE			-----NA-----			
113 M	2-chlorotoluene	0.823	0.793	3.6	89	0.00	14.56
114 M	4-chlorotoluene	2.343	2.351	-0.3	92	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.690	-0.1	91	0.00	14.59
116 M	tert-butylbenzene	2.480	2.460	0.8	91	0.00	14.97
117 M	pentachloroethane	0.526	0.562	-6.8	92	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.805	-2.6	92	0.00	15.02
119 M	sec-butylbenzene	3.680	3.679	0.0	89	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.779	-0.2	92	0.00	15.40
121 M	p-isopropyltoluene	3.201	3.265	-2.0	89	0.00	15.36
122 M	1,4-dichlorobenzene	1.730	1.727	0.2	91	0.00	15.51
123	benzyl chloride	1.530	1.446	5.5	80	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.748	-1.4	90	0.00	15.92
125	1,4-DIETHYLBENZENE			-----NA-----			
126 M	n-butylbenzene	1.695	1.753	-3.4	90	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			-----NA-----			
128 M	1,2-dibromo-3-chloropropane	0.153	0.160	-4.6	96	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.602	-5.2	90	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.379	-1.7	87	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.798	-0.4	89	0.00	17.77
132 M	naphthalene	2.451	2.380	2.9	86	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.172	1.8	86	0.00	18.21
134 m	hexachloroethane	0.599	0.571	4.7	86	0.00	16.25
-----		True	Calc.	% Drift	-----	-----	-----
135	2-ethylhexyl acrylate	4.000	3.413	14.7	85	0.00	17.66

-----		AvgRF	CCRF	% Dev	-----	-----	-----
136	2-methylnaphthalene	0.593	0.435	26.6#	70	0.00	19.28
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	101	0.00	8.84
-----		True	Calc.	% Drift	-----	-----	-----
138	Freon 142B			-----NA-----			

6.9.4
6

Continuing Calibration Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2855-CC2825

Lab FileID: 4B69352.D

(#) = Out of Range
4B68757.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Fri Feb 17 12:03:09 2017 11

6.9.4
6

Continuing Calibration Summary

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69375.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2855\4B69375.D Vial: 25
 Acq On : 16 Feb 2017 8:51 pm Operator: Hueanht
 Sample : cc2825-50 Inst : MS4B
 Misc : MS12539,V4B2855,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	6.80
2 M	tertiary butyl alcohol	1.304	1.339	-2.7	99	0.00	6.91
3 M	1,4-dioxane	0.113	0.111	1.8	91	0.00	10.34
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	92	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.921	-16.4	104	0.00	3.86
8 M	dichlorodifluoromethane	0.686	0.674	1.7	82	0.00	3.82
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.337	1.7	89	0.00	4.18
11 M	vinyl chloride	0.914	0.832	9.0	81	0.00	4.40
12 M	bromomethane	0.423	0.482	-13.9	102	0.00	4.98
13 M	chloroethane	0.408	0.425	-4.2	91	0.00	5.16
14	vinyl bromide	0.571	0.565	1.1	86	0.00	5.45
15 M	trichlorofluoromethane	0.785	0.806	-2.7	89	0.00	5.53
16	1,3-butadiene			-----NA-----			
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.299	-6.0	92	0.00	5.88
20	2-chloropropane	0.191	0.163	14.7	77	0.00	6.07
21 M	acrolein	0.113	0.111	1.8	92	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.505	-9.1	95	0.00	6.25
23 M	acetone	0.055	0.045	18.2	73	0.00	6.26
24 M	allyl chloride	50.000	107.399	True	Calc.	% Drift	
				-114.8#	201	0.00	6.71
25 M	acetonitrile	0.032	0.037	AvgRF	CCRF	% Dev	
26 M	iodomethane	0.952	0.802	-15.6	111	0.00	6.62
27 M	carbon disulfide	1.467	1.243	15.8	74	-0.03	6.48
28 M	methylene chloride	0.521	0.552	15.3	69	0.00	6.61
29 M	methyl acetate	0.078	0.081	-6.0	95	0.00	6.87
30	1-chloropropane			-----NA-----			
31 M	methyl tert butyl ether	1.421	1.443	-1.5	92	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.480	-3.0	92	0.00	7.21
33 M	di-isopropyl ether	1.974	1.971	0.2	94	0.00	7.69
34 M	2-butanone	0.060	0.060	0.0	87	0.00	8.30
35 M	1,1-dichloroethane	0.941	0.965	-2.6	93	0.00	7.73
36 M	chloroprene	0.762	0.806	-5.8	94	0.00	7.82
37 M	acrylonitrile	0.201	0.202	-0.5	92	0.00	7.13

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69375.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.098	-5.4	91	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.693	-1.1	92	0.00	8.11
40 M	ethyl acetate	0.086	0.090	-4.7	92	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.438	6.2	83	0.00	8.39
42 M	cis-1,2-dichloroethene	0.521	0.545	-4.6	92	0.00	8.37
43	methylacrylate	0.075	0.079	-5.3	94	0.00	8.39
44 M	propionitrile	0.074	0.075	-1.4	97	0.00	8.38
45 M	bromochloromethane	0.260	0.286	-10.0	93	0.00	8.64
46 M	tetrahydrofuran	0.176	0.178	-1.1	94	0.00	8.66
47 M	chloroform	0.568	0.581	-2.3	96	0.00	8.71
48 M	T-BUTYL FORMATE	0.410	0.420	-2.4	87	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.445	-5.5	95	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.479	-4.8	97	0.00	9.29
51 M	freon 113	0.397	0.375	5.5	80	0.00	6.26
52 M	methacrylonitrile	0.369	0.373	-1.1	94	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.693	-5.2	90	0.00	8.96
54 M	cyclohexane	0.676	0.603	10.8	72	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	92	0.00	9.71
57 M	epichlorohydrin	0.038	0.040	-5.3	95	0.00	10.87
58 M	n-butyl alcohol	0.012	0.011	8.3	102	0.00	9.75
59 M	carbon tetrachloride	0.420	0.435	-3.6	89	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.497	-1.4	91	0.00	9.11
61 M	hexane	0.574	0.579	-0.9	84	0.00	7.51
62	Tert Amyl alcohol	0.019	0.017	10.5	96	0.00	9.21
63 M	benzene	1.432	1.418	1.0	92	0.00	9.34
64 m	iso-octane	1.526	1.493	2.2	86	0.00	9.42
65 M	tert-amyl methyl ether	0.223	0.230	-3.1	92	0.00	9.40
66 M	heptane	0.361	0.381	-5.5	92	0.00	9.55
67 M	isopropyl acetate	0.148	0.157	-6.1	92	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.483	-5.5	97	0.00	9.37
69 M	trichloroethene	0.359	0.380	-5.8	94	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.472	-1.1	91	0.00	9.99
72 M	2-nitropropane	0.144	0.152	-5.6	96	0.00	10.75
73 M	2-chloroethyl vinyl ether	0.242	0.248	-2.5	94	0.00	10.77
74 M	methyl methacrylate	0.100	0.104	-4.0	89	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.405	-4.1	94	0.00	10.30
76 M	dibromomethane	0.231	0.241	-4.3	95	0.00	10.41
77 M	methylcyclohexane	0.600	0.609	-1.5	87	0.00	10.30
78 M	bromodichloromethane	0.467	0.522	-11.8	96	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.661	-5.9	90	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.164	-0.8	93	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.158	0.6	96	0.00	11.09
82 M	toluene	0.907	0.892	1.7	91	0.00	11.38
83 M	3-methyl-1-butanol	0.016	0.018	-12.5	107	0.00	11.08
84 M	trans-1,3-dichloropropene	0.540	0.570	-5.6	92	0.00	11.58
85 M	ethyl methacrylate	0.495	0.506	-2.2	90	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.309	-6.6	96	0.00	11.81
87 M	2-hexanone	0.163	0.157	3.7	91	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	94	0.00	12.91
89 M	tetrachloroethene	0.411	0.390	5.1	91	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.603	4.4	95	0.00	12.00
91 M	butyl acetate	0.291	0.287	1.4	92	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.037	-2.8	104	0.00	12.15
93 M	dibromochloromethane	0.394	0.449	-14.0	94	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.420	-1.4	94	0.00	12.43
95	n-butyl ether	1.882	1.748	7.1	87	0.00	12.88

6.9.5
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Continuing Calibration Summary

Page 3 of 4

Job Number: JC37020

Sample: V4B2855-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69375.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.086	2.7	92	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.405	-2.0	94	0.00	13.01
98 M	ethylbenzene	1.860	1.792	3.7	93	0.00	13.00
99 M	m,p-xylene	0.729	0.699	4.1	91	0.00	13.13
100 M	o-xylene	0.730	0.736	-0.8	91	0.00	13.57
101 M	styrene	1.276	1.204	5.6	90	0.00	13.59
-----		True	Calc.	% Drift	-----	-----	-----
102 M	bromoform	50.000	48.972	2.1	93	0.00	13.84
-----		AvgRF	CCRF	% Dev	-----	-----	-----
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	15.48
104 M	isopropylbenzene	3.278	3.219	1.8	90	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.836	-2.1	95	0.00	14.18
106	cyclohexanone	0.161	0.039	75.8#	24#	0.00	14.10
107 M	bromobenzene	0.950	0.940	1.1	92	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	0.899	0.946	-5.2	95	0.00	14.27
-----		True	Calc.	% Drift	-----	-----	-----
109 M	trans-1,4-dichloro-2-bute	50.000	37.399	25.2#	71	0.00	14.30
-----		AvgRF	CCRF	% Dev	-----	-----	-----
110 M	1,2,3-trichloropropane	0.225	0.234	-4.0	96	0.00	14.36
111 M	n-propylbenzene	3.774	3.734	1.1	90	0.00	14.41
112	4-ETHYL TOLUENE			NA			
113 M	2-chlorotoluene	0.823	0.820	0.4	90	0.00	14.56
114 M	4-chlorotoluene	2.343	2.349	-0.3	91	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.632	2.1	89	0.00	14.58
116 M	tert-butylbenzene	2.480	2.469	0.4	90	0.00	14.97
117 M	pentachloroethane	0.526	0.565	-7.4	92	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.750	-0.5	90	0.00	15.02
119 M	sec-butylbenzene	3.680	3.685	-0.1	88	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.746	1.7	90	0.00	15.40
121 M	p-isopropyltoluene	3.201	3.238	-1.2	88	0.00	15.35
122 M	1,4-dichlorobenzene	1.730	1.742	-0.7	91	0.00	15.51
123	benzyl chloride	1.530	1.431	6.5	75	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.759	-2.0	92	0.00	15.92
125	1,4-DIETHYLBENZENE			NA			
126 M	n-butylbenzene	1.695	1.706	-0.6	86	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			NA			
128 M	1,2-dibromo-3-chloropropa	0.153	0.179	-17.0	100	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.576	-3.5	90	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.385	-2.1	87	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.721	9.3	83	0.00	17.77
132 M	naphthalene	2.451	2.539	-3.6	91	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.193	0.0	87	0.00	18.20
134 m	hexachloroethane	0.599	0.603	-0.7	84	0.00	16.25
-----		True	Calc.	% Drift	-----	-----	-----
135	2-ethylhexyl acrylate	10.000	9.504	5.0	101	0.00	17.66
-----		AvgRF	CCRF	% Dev	-----	-----	-----
136	2-methylnaphthalene	0.593	0.545	8.1	76	0.00	19.27
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	96	0.00	8.84
-----		True	Calc.	% Drift	-----	-----	-----
138	Freon 142B			NA			

6.9.5
G

Continuing Calibration Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2855-CC2825

Lab FileID: 4B69375.D

(#) = Out of Range
4B68758.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Fri Feb 17 12:31:55 2017 11

6.9.5
6

Continuing Calibration Summary

Page 1 of 4

Job Number: JC37020

Sample: V4B2856-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69386.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\V4B2856-57\4B69386.D Vial: 4
 Acq On : 17 Feb 2017 9:42 am Operator: Hueanht
 Sample : cc2825-20 Inst : MS4B
 Misc : MS12539,V4B2856,5,,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 Last Update : Tue Jan 31 16:58:58 2017
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	6.80
2 M	tertiary butyl alcohol	1.304	1.299	0.4	97	0.00	6.91
3 M	1,4-dioxane	0.113	0.110	2.7	93	0.00	10.34
4	Ethanol			-----NA-----			
5 I	pentafluorobenzene	1.000	1.000	0.0	89	0.00	8.84
6	CHLOROTRIFLUOROETHENE			-----NA-----			
7 M	chlorodifluoromethane	0.791	0.850	-7.5	94	0.00	3.87
8 M	dichlorodifluoromethane	0.686	0.591	13.8	75	0.00	3.83
9	Freon 114			-----NA-----			
10 M	chloromethane	0.343	0.318	7.3	81	0.00	4.17
11 M	vinyl chloride	0.914	0.844	7.7	81	0.00	4.40
12 M	bromomethane	0.423	0.485	-14.7	104	0.00	4.98
13 M	chloroethane	0.408	0.455	-11.5	97	0.00	5.15
14	vinyl bromide	0.571	0.599	-4.9	90	0.00	5.44
15 M	trichlorofluoromethane	0.785	0.803	-2.3	90	0.00	5.53
16	1,3-butadiene	0.751	0.775	-3.2	80	0.00	4.46
17	Pentane			-----NA-----			
18	freon 123a			-----NA-----			
19 M	ethyl ether	0.282	0.286	-1.4	84	0.00	5.87
20	2-chloropropane	0.191	0.197	-3.1	85	0.00	6.07
21 M	acrolein	0.113	0.109	3.5	87	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.472	-1.9	86	0.00	6.26
23 M	acetone	0.055	0.050	9.1	75	0.00	6.26
24 M	allyl chloride	20.000	15.740	True Calc.	% Drift	-----	-----
25 M	acetonitrile	0.032	0.039	-21.9#	109	0.00	6.62
26 M	iodomethane	0.952	1.001	-5.1	89	0.00	6.51
27 M	carbon disulfide	1.467	1.613	-10.0	86	0.00	6.62
28 M	methylene chloride	0.521	0.544	-4.4	89	0.00	6.87
29 M	methyl acetate	0.078	0.088	-12.8	97	0.00	6.65
30	1-chloropropane			-----NA-----			
31 M	methyl tert butyl ether	1.421	1.408	0.9	85	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.484	-3.9	88	0.00	7.21
33 M	di-isopropyl ether	1.974	2.115	-7.1	94	0.00	7.69
34 M	2-butanone	0.060	0.062	-3.3	86	0.00	8.31
35 M	1,1-dichloroethane	0.941	0.994	-5.6	91	0.00	7.73
36 M	chloroprene	0.762	0.828	-8.7	93	0.00	7.82
37 M	acrylonitrile	0.201	0.208	-3.5	88	0.00	7.13

6.6.9

6

Continuing Calibration Summary

Page 2 of 4

Job Number: JC37020

Sample: V4B2856-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69386.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	0.093	0.101	-8.6	94	0.00	7.66
39 M	ethyl tert-butyl ether	1.674	1.732	-3.5	90	0.00	8.11
40 M	ethyl acetate	0.086	0.098	-14.0	97	0.00	8.31
41 M	2,2-dichloropropane	0.467	0.522	-11.8	92	0.00	8.39
42 M	cis-1,2-dichloroethene	0.521	0.540	-3.6	88	0.00	8.37
43	methylacrylate	0.075	0.076	-1.3	88	0.00	8.39
44 M	propionitrile	0.074	0.079	-6.8	93	0.00	8.38
45 M	bromochloromethane	0.260	0.276	-6.2	87	0.00	8.64
46 M	tetrahydrofuran	0.176	0.181	-2.8	89	0.00	8.66
47 M	chloroform	0.568	0.589	-3.7	92	0.00	8.71
48 M	T-BUTYL FORMATE	0.410	0.432	-5.4	87	0.00	8.74
49 S	dibromofluoromethane (s)	0.422	0.453	-7.3	95	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	0.457	0.506	-10.7	99	0.00	9.29
51 M	freon 113	0.397	0.390	1.8	82	0.00	6.26
52 M	methacrylonitrile	0.369	0.370	-0.3	92	0.00	8.56
53 M	1,1,1-trichloroethane	0.659	0.714	-8.3	91	0.00	8.95
54 M	cyclohexane	0.676	0.668	1.2	81	0.00	9.06
55	iso-butyl alcohol			-----NA-----			
56 I	1,4-difluorobenzene	1.000	1.000	0.0	92	0.00	9.71
57 M	epichlorohydrin	0.038	0.042	-10.5	96	0.00	10.87
58 M	n-butyl alcohol	0.012	0.013	-8.3	101	0.00	9.75
59 M	carbon tetrachloride	0.420	0.444	-5.7	90	0.00	9.13
60 M	1,1-dichloropropene	0.490	0.495	-1.0	89	0.00	9.11
61 M	hexane	0.574	0.532	7.3	78	0.00	7.52
62	Tert Amyl alcohol	0.019	0.019	0.0	90	0.00	9.21
63 M	benzene	1.432	1.402	2.1	89	0.00	9.34
64 m	iso-octane	1.526	1.453	4.8	84	0.00	9.41
65 M	tert-amyl methyl ether	0.223	0.232	-4.0	91	0.00	9.40
66 M	heptane	0.361	0.320	11.4	79	0.00	9.55
67 M	isopropyl acetate	0.148	0.153	-3.4	91	0.00	9.23
68 M	1,2-dichloroethane	0.458	0.488	-6.6	94	0.00	9.37
69 M	trichloroethene	0.359	0.371	-3.3	90	0.00	10.01
70	Tert-amyl Ethyl Ether			-----NA-----			
71	ethyl acrylate	0.467	0.437	6.4	84	0.00	9.99
72 M	2-nitropropane	0.144	0.154	-6.9	94	0.00	10.76
73 M	2-chloroethyl vinyl ether	0.242	0.255	-5.4	95	0.00	10.77
74 M	methyl methacrylate	0.100	0.095	5.0	83	0.00	10.24
75 M	1,2-dichloropropane	0.389	0.408	-4.9	90	0.00	10.30
76 M	dibromomethane	0.231	0.242	-4.8	95	0.00	10.41
77 M	methylcyclohexane	0.600	0.572	4.7	82	0.00	10.30
78 M	bromodichloromethane	0.467	0.501	-7.3	93	0.00	10.55
79 M	cis-1,3-dichloropropene	0.624	0.640	-2.6	88	0.00	11.00
80 S	toluene-d8 (s)	1.155	1.161	-0.5	92	0.00	11.31
81 M	4-methyl-2-pentanone	0.159	0.166	-4.4	94	0.00	11.09
82 M	toluene	0.907	0.862	5.0	87	0.00	11.38
83 M	3-methyl-1-butanol	0.016	0.021	-31.3#	112	0.00	11.09
84 M	trans-1,3-dichloropropene	0.540	0.545	-0.9	88	0.00	11.58
85 M	ethyl methacrylate	0.495	0.465	6.1	83	0.00	11.55
86 M	1,1,2-trichloroethane	0.290	0.295	-1.7	92	0.00	11.81
87 M	2-hexanone	0.163	0.163	0.0	89	0.00	11.97
88 I	chlorobenzene-d5	1.000	1.000	0.0	92	0.00	12.91
89 M	tetrachloroethene	0.411	0.369	10.2	86	0.00	11.96
90 M	1,3-dichloropropane	0.631	0.600	4.9	91	0.00	12.00
91 M	butyl acetate	0.291	0.294	-1.0	92	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	0.036	0.043	-19.4	110	0.00	12.15
93 M	dibromochloromethane	0.394	0.411	-4.3	91	0.00	12.26
94 M	1,2-dibromoethane	0.414	0.396	4.3	90	0.00	12.43
95	n-butyl ether	1.882	1.666	11.5	82	0.00	12.88

6.9.6
6

Continuing Calibration Summary

Page 3 of 4

Job Number: JC37020

Sample: V4B2856-CC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B69386.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	1.116	1.049	6.0	88	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	0.397	0.395	0.5	92	0.00	13.01
98 M	ethylbenzene	1.860	1.777	4.5	90	0.00	13.00
99 M	m,p-xylene	0.729	0.680	6.7	88	0.00	13.13
100 M	o-xylene	0.730	0.707	3.2	88	0.00	13.57
101 M	styrene	1.276	1.188	6.9	87	0.00	13.59
-----		True	Calc.	% Drift	-----	-----	-----
102 M	bromoform	20.000	17.392	13.0	90	0.00	13.84

-----		AvgRF	CCRF	% Dev	-----	-----	-----
103 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	15.48
104 M	isopropylbenzene	3.278	3.118	4.9	86	0.00	13.95
105 S	4-bromofluorobenzene (s)	0.819	0.831	-1.5	93	0.00	14.18
106	cyclohexanone	0.161	0.063	60.9#	35#	0.00	14.11
107 M	bromobenzene	0.950	0.918	3.4	90	0.00	14.38
108 M	1,1,2,2-tetrachloroethane	0.899	0.910	-1.2	92	0.00	14.27
-----		True	Calc.	% Drift	-----	-----	-----
109 M	trans-1,4-dichloro-2-bute	20.000	11.578	42.1#	59	0.00	14.30

-----		AvgRF	CCRF	% Dev	-----	-----	-----
110 M	1,2,3-trichloropropane	0.225	0.227	-0.9	90	0.00	14.36
111 M	n-propylbenzene	3.774	3.767	0.2	89	0.00	14.41
112	4-ETHYL TOLUENE			-----NA-----			
113 M	2-chlorotoluene	0.823	0.795	3.4	88	0.00	14.56
114 M	4-chlorotoluene	2.343	2.337	0.3	90	0.00	14.69
115 M	1,3,5-trimethylbenzene	2.688	2.658	1.1	89	0.00	14.58
116 M	tert-butylbenzene	2.480	2.386	3.8	86	0.00	14.97
117 M	pentachloroethane	0.526	0.553	-5.1	90	0.00	15.04
118 M	1,2,4-trimethylbenzene	2.735	2.777	-1.5	89	0.00	15.02
119 M	sec-butylbenzene	3.680	3.604	2.1	86	0.00	15.21
120 M	1,3-dichlorobenzene	1.776	1.764	0.7	90	0.00	15.40
121 M	p-isopropyltoluene	3.201	3.206	-0.2	86	0.00	15.35
122 M	1,4-dichlorobenzene	1.730	1.712	1.0	89	0.00	15.51
123	benzyl chloride	1.530	1.563	-2.2	85	0.00	15.61
124 M	1,2-dichlorobenzene	1.724	1.742	-1.0	89	0.00	15.92
125	1,4-DIETHYLBENZENE			-----NA-----			
126 M	n-butylbenzene	1.695	1.710	-0.9	87	0.00	15.81
127	1,2,4,5-TETRAMETHYLBENZEN			-----NA-----			
128 M	1,2-dibromo-3-chloropropane	0.153	0.165	-7.8	97	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	1.523	1.578	-3.6	87	0.00	16.97
130 M	1,2,4-trichlorobenzene	1.356	1.336	1.5	83	0.00	17.65
131 M	hexachlorobutadiene	0.795	0.759	4.5	83	0.00	17.77
132 M	naphthalene	2.451	2.331	4.9	83	0.00	17.97
133 M	1,2,3-trichlorobenzene	1.193	1.143	4.2	83	0.00	18.20
134 m	hexachloroethane	0.599	0.570	4.8	85	0.00	16.25
-----		True	Calc.	% Drift	-----	-----	-----
135	2-ethylhexyl acrylate	4.000	3.190	20.3#	75	0.00	17.66

-----		AvgRF	CCRF	% Dev	-----	-----	-----
136	2-methylnaphthalene	0.593	0.437	26.3#	69	0.00	19.27
137 I	pentafluorobenzene(a)	1.000	1.000	0.0	97	0.00	8.84
-----		True	Calc.	% Drift	-----	-----	-----
138	Freon 142B			-----NA-----			

6.9
6

Continuing Calibration Summary

Job Number: JC37020

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 4 of 4

Sample: V4B2856-CC2825

Lab FileID: 4B69386.D

(#) = Out of Range
4B68757.D M4B2825.M

SPCC's out = 0 CCC's out = 0
Mon Feb 20 16:55:03 2017 11

6.9.6



ACCUTEST
New Jersey

Section 7

GC/MS Volatiles

Raw Data

7

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69369.D
 Acq On : 16 Feb 2017 5:59 pm
 Operator : Hueanht
 Sample : jc37020-1
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 19 Sample Multiplier: 1

Manual Integrations
APPROVED
(compounds with "m" flag)

MoHui Huang
02/17/17 15:16

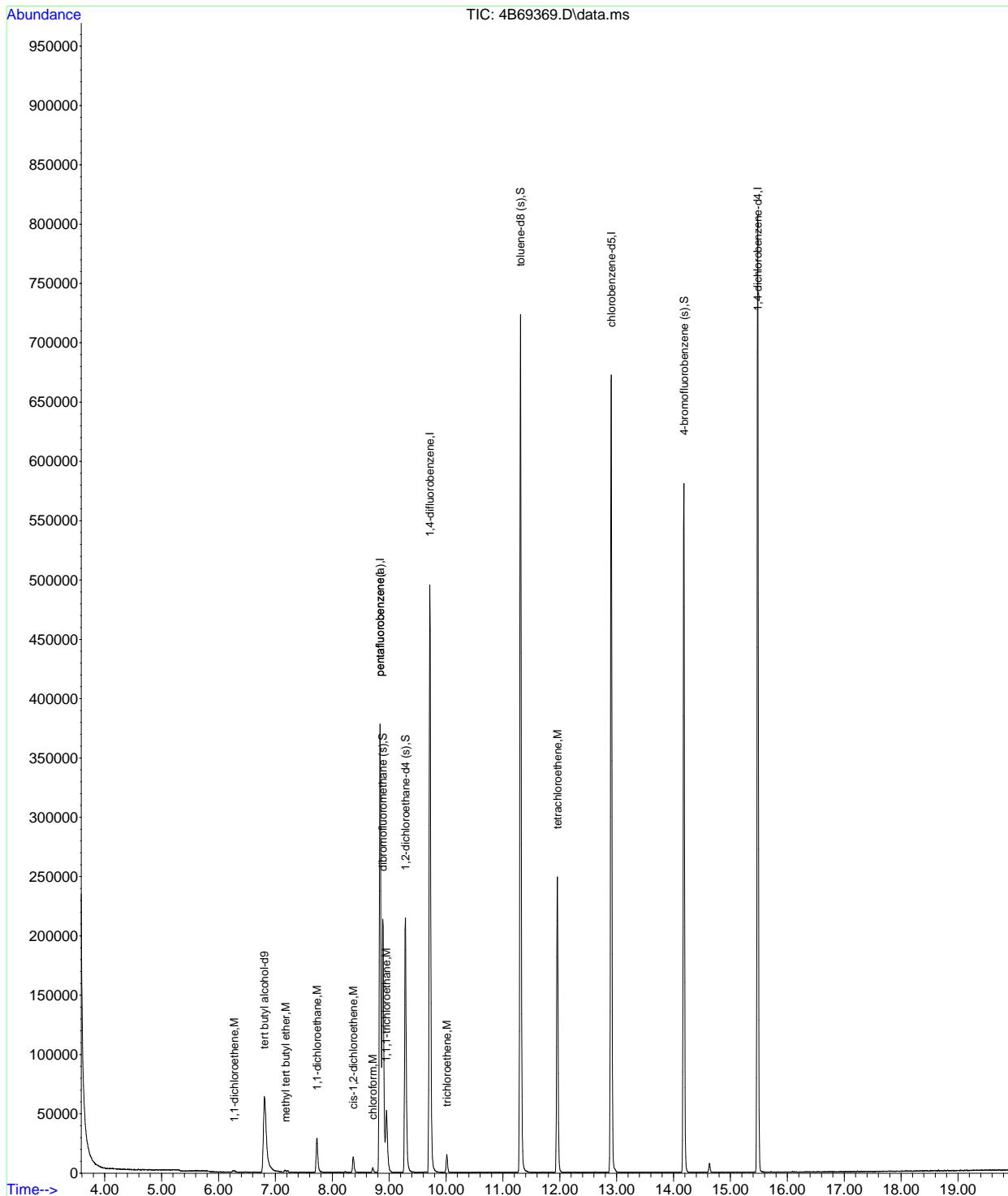
Quant Time: Feb 17 12:28:23 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

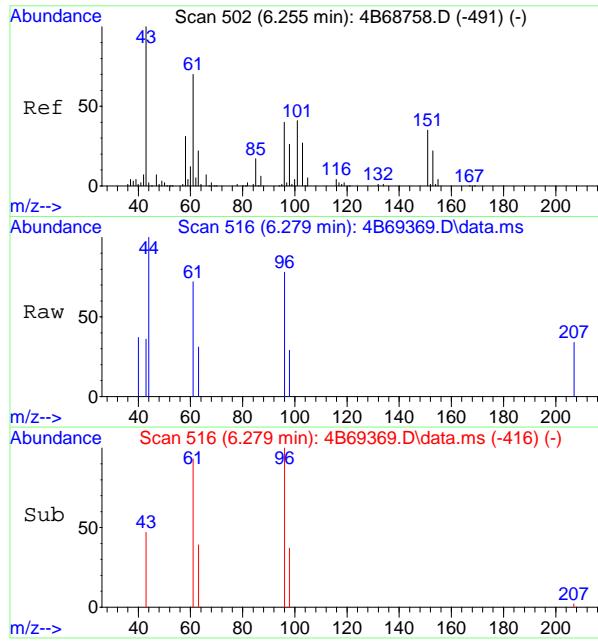
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	134730	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	279184	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	394415	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	368189	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	205929	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	279184	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	126257	53.55	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	107.10%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	149541	58.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	117.12%		
80) toluene-d8 (s)	11.310	98	459320	50.42	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.84%		
105) 4-bromofluorobenzene (s)	14.181	95	177879	52.75	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	105.50%		
Target Compounds						
22) 1,1-dichloroethene	6.279	96	848m	0.33	ug/L	
31) methyl tert butyl ether	7.178	73	1860	0.23	ug/L	93
35) 1,1-dichloroethane	7.733	63	32875	6.26	ug/L	99
42) cis-1,2-dichloroethene	8.365	96	5899	2.03	ug/L	86
47) chloroform	8.711	85	1952	0.62	ug/L	97
53) 1,1,1-trichloroethane	8.951	97	34341	9.33	ug/L	97
69) trichloroethene	10.013	95	5209	1.84	ug/L	94
89) tetrachloroethene	11.959	164	60632	20.02	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69369.D
 Acq On : 16 Feb 2017 5:59 pm
 Operator : Hueanh
 Sample : jc37020-1
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 19 Sample Multiplier: 1

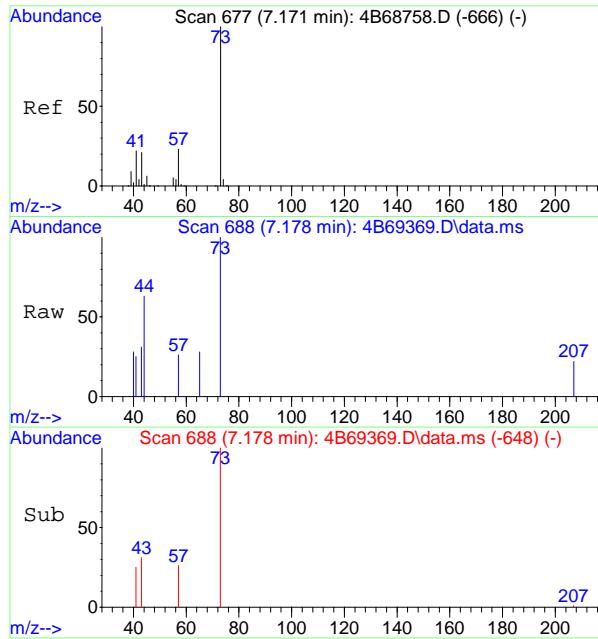
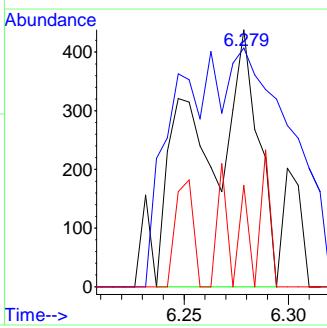
Quant Time: Feb 17 12:28:23 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration





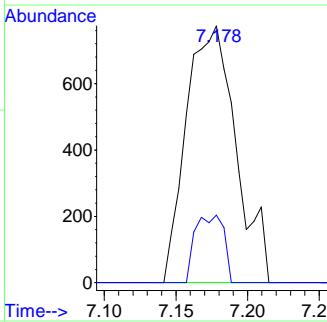
#22
1,1-dichloroethene
Concen: 0.33 ug/L m
RT: 6.279 min Scan# 516
Delta R.T. 0.023 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

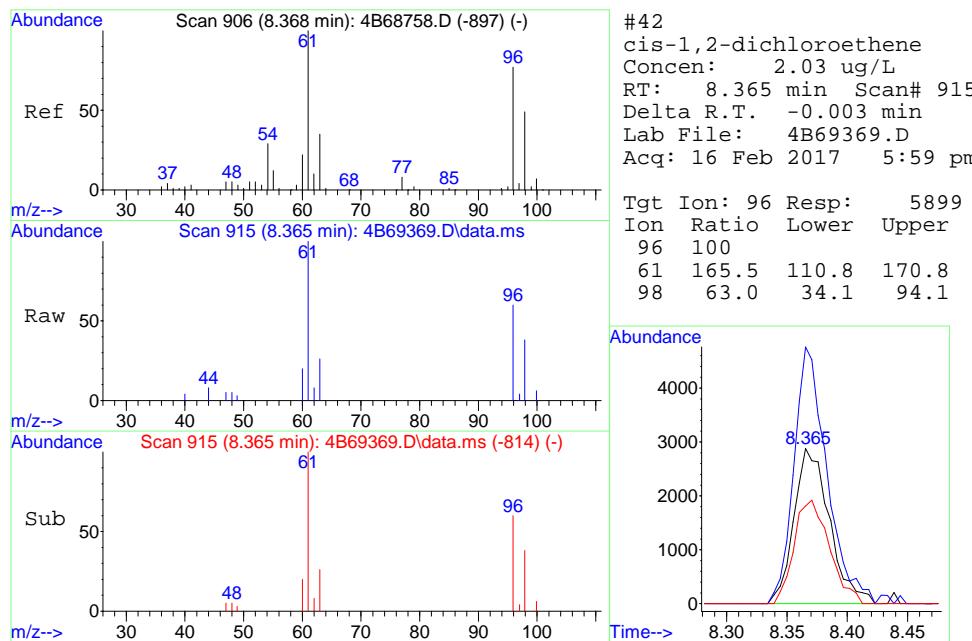
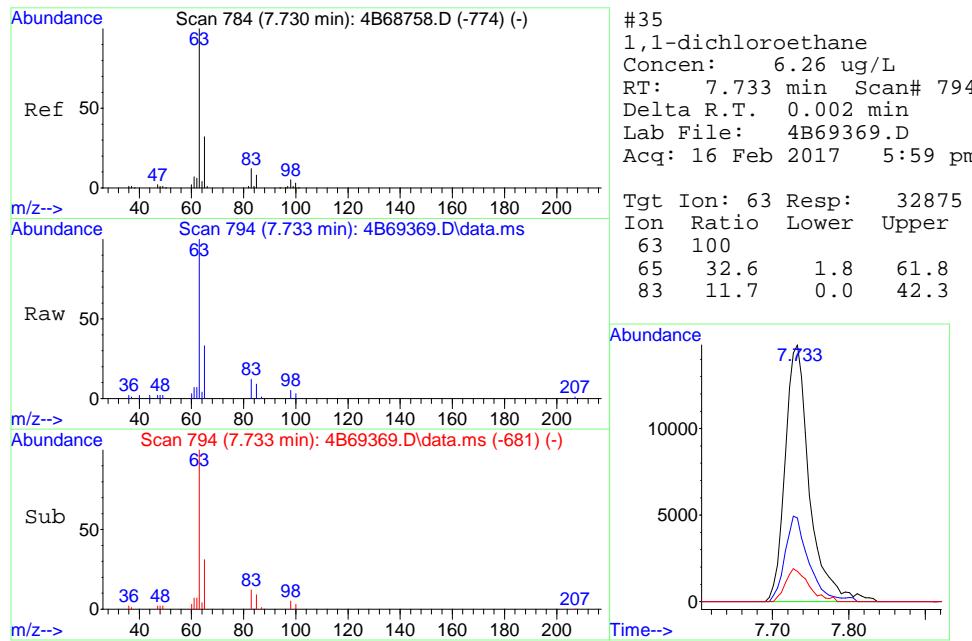
Tgt Ion: 96 Resp: 848
Ion Ratio Lower Upper
96 100
61 92.9 144.5 204.5#
63 39.5 24.8 84.8

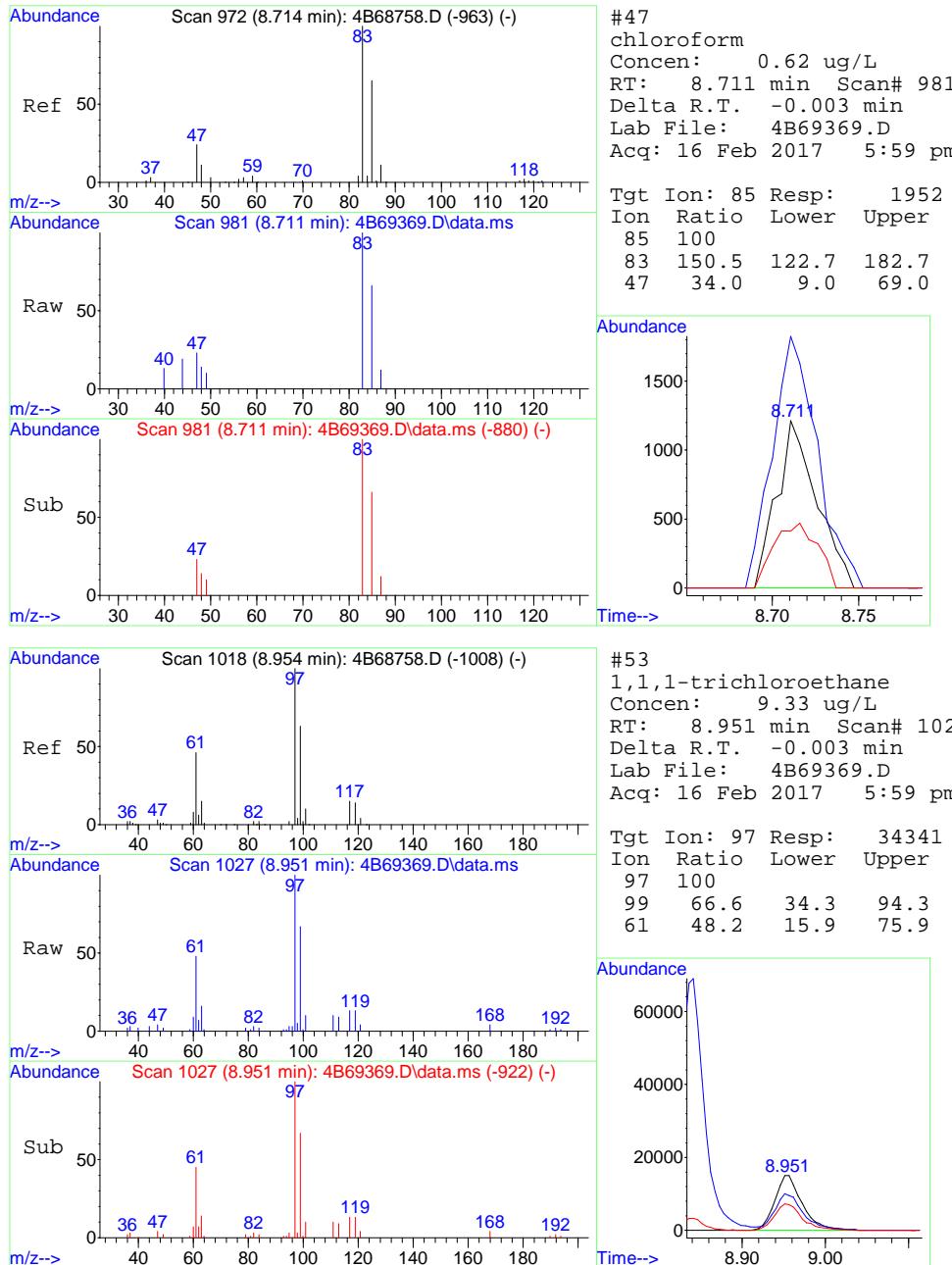


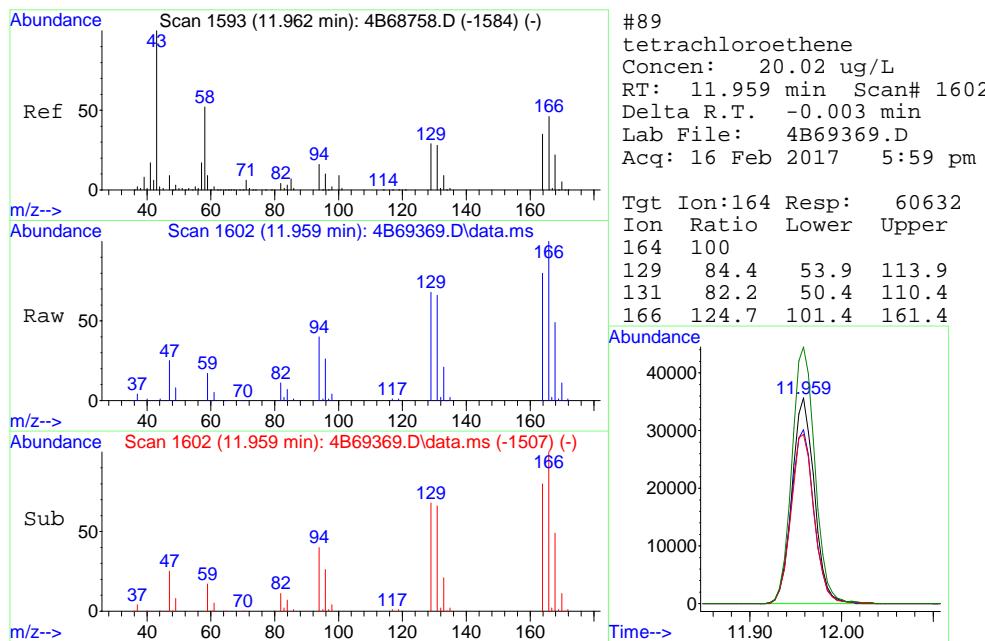
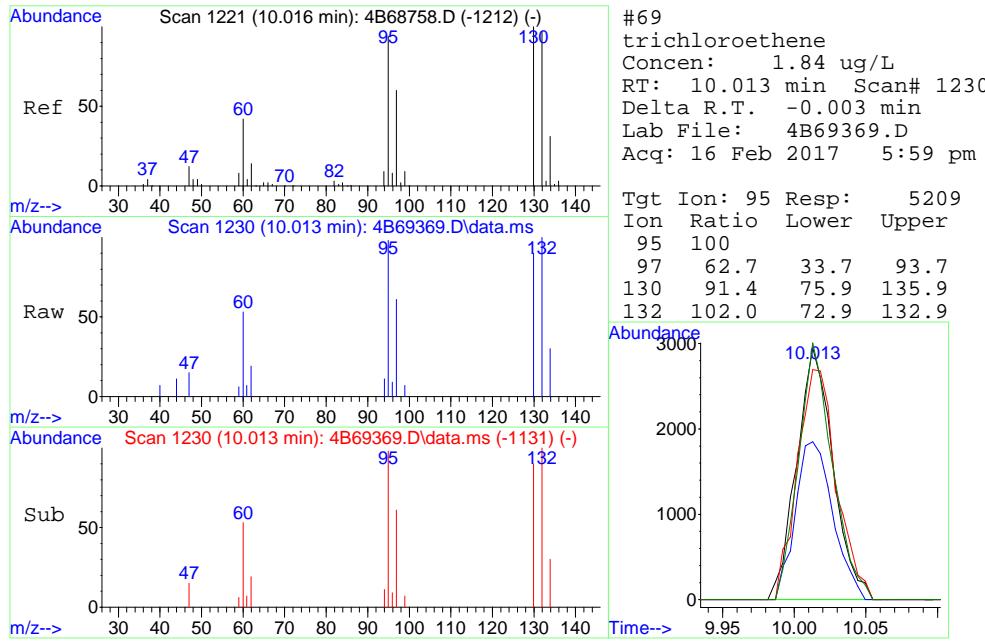
#31
methyl tert butyl ether
Concen: 0.23 ug/L
RT: 7.178 min Scan# 688
Delta R.T. 0.007 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 73 Resp: 1860
Ion Ratio Lower Upper
73 100
57 26.4 0.0 69.3









Manual Integration Approval Summary

Page 1 of 1

Sample Number: JC37020-1
Lab FileID: 4B69369.D
Injection Time: 02/16/17 17:59

Method: SW846 8260C
Analyst approved: 02/17/17 12:40 Dong, Mei
Supervisor approved: 02/17/17 15:16 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,1-Dichloroethene	75-35-4		6.28	Split peak

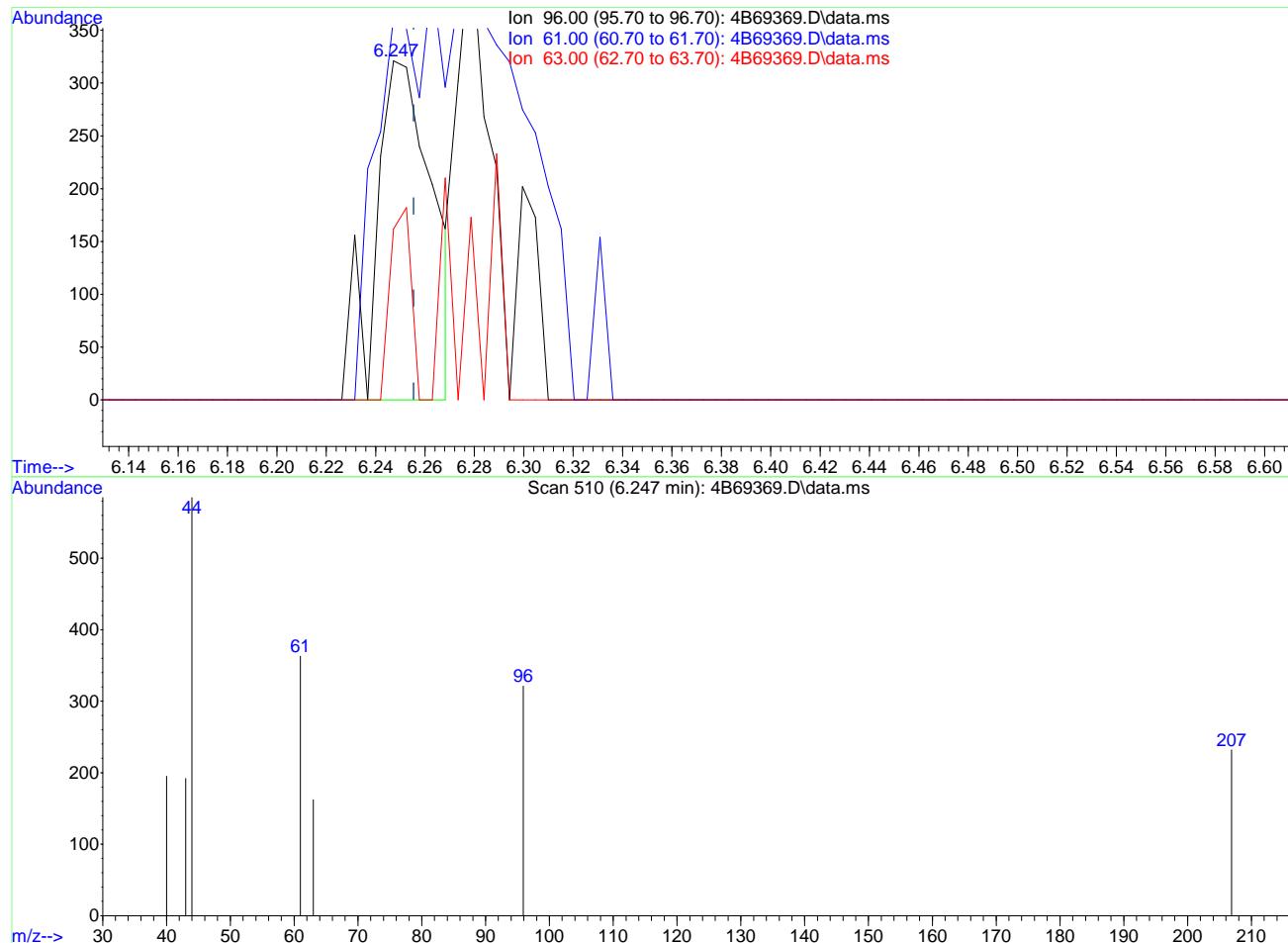
7.1.1.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69369.D
 Acq On : 16 Feb 2017 5:59 pm
 Operator : Hueanh
 Sample : jc37020-1
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 08:08:53 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



(22) 1,1-dichloroethene (M)

6.247min (-0.008) 0.20ug/L

response 511

Ion	Exp%	Act%
96.00	100	100
61.00	174.50	113.08#
63.00	54.80	50.47
0.00	0.00	0.00

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69377.D
 Acq On : 16 Feb 2017 9:48 pm
 Operator : Hueanht
 Sample : jc37020-2
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 27 Sample Multiplier: 1

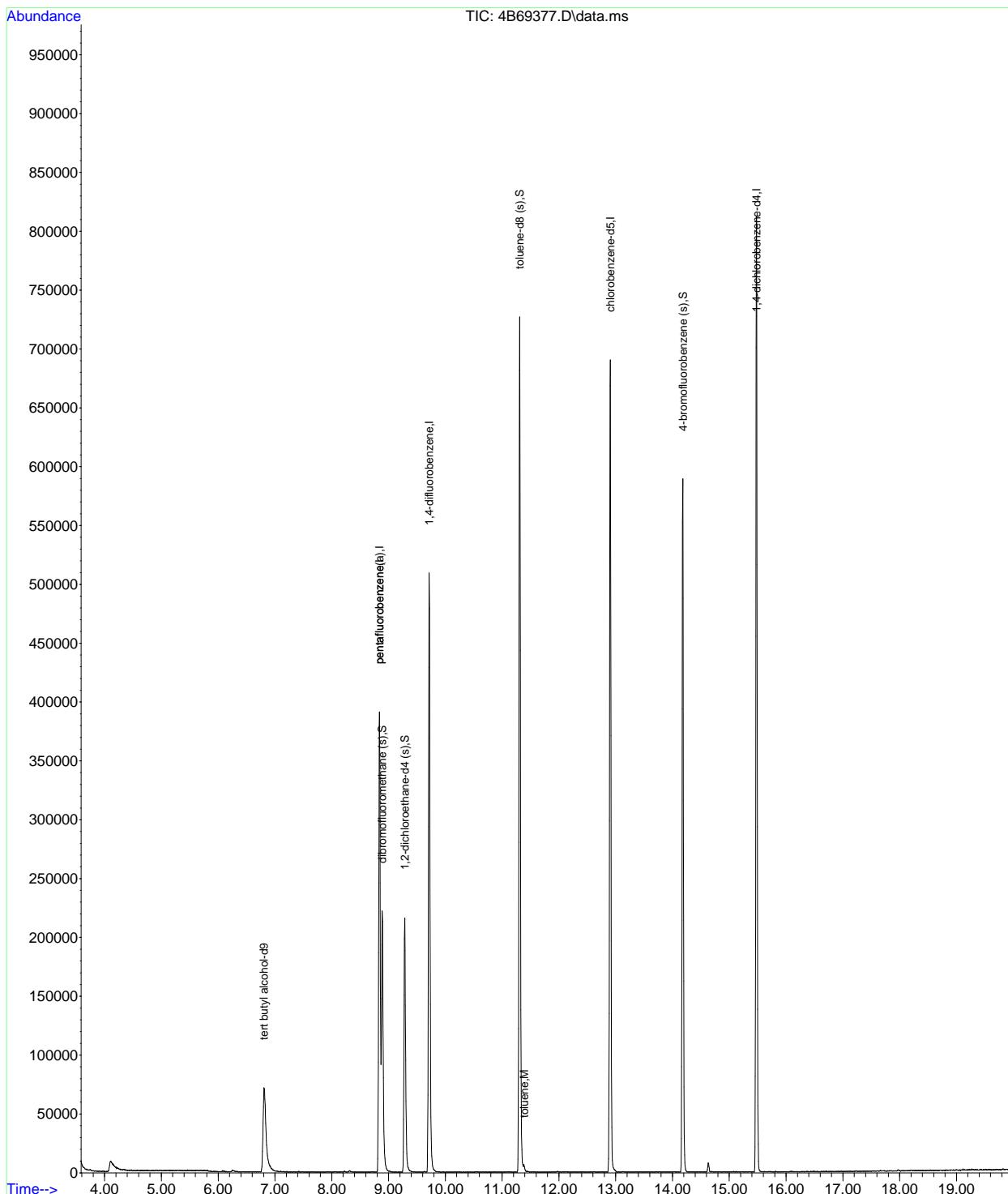
Quant Time: Feb 17 12:33:41 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

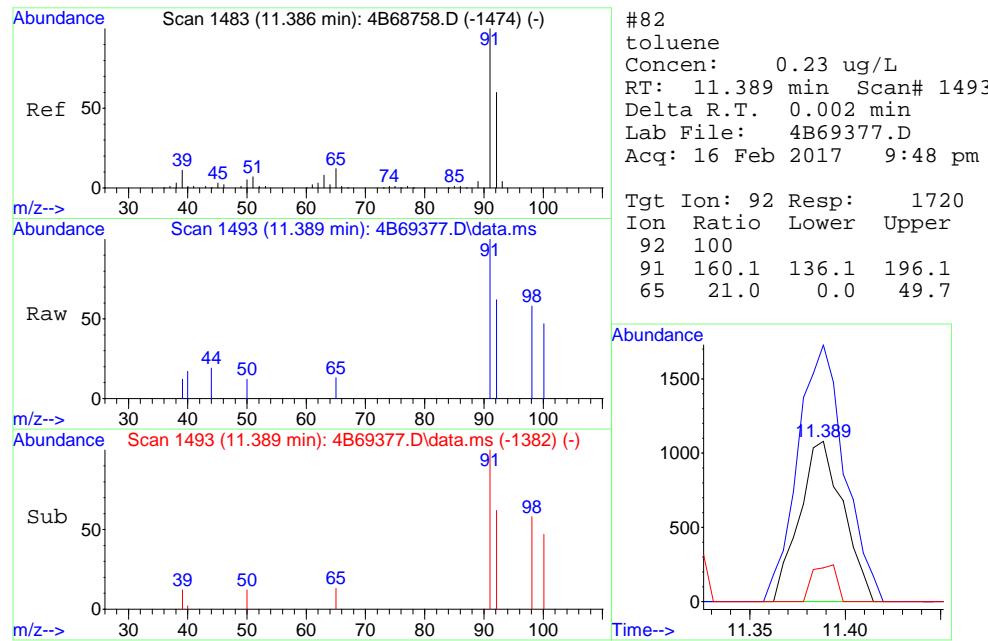
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	153094	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	297965	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	406314	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	383532	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	216195	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	297965	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	130230	51.75	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	103.50%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147946	54.28	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	108.56%	
80) toluene-d8 (s)	11.310	98	471417	50.24	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.48%	
105) 4-bromofluorobenzene (s)	14.181	95	181471	51.26	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.52%	
Target Compounds						
82) toluene	11.389	92	1720	0.23	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69377.D
 Acq On : 16 Feb 2017 9:48 pm
 Operator : Hueanh
 Sample : jc37020-2
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 17 12:33:41 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration





Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69382.D
 Acq On : 17 Feb 2017 12:10 am
 Operator : Hueanht
 Sample : jc37020-3
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 32 Sample Multiplier: 1

Quant Time: Feb 17 12:37:03 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

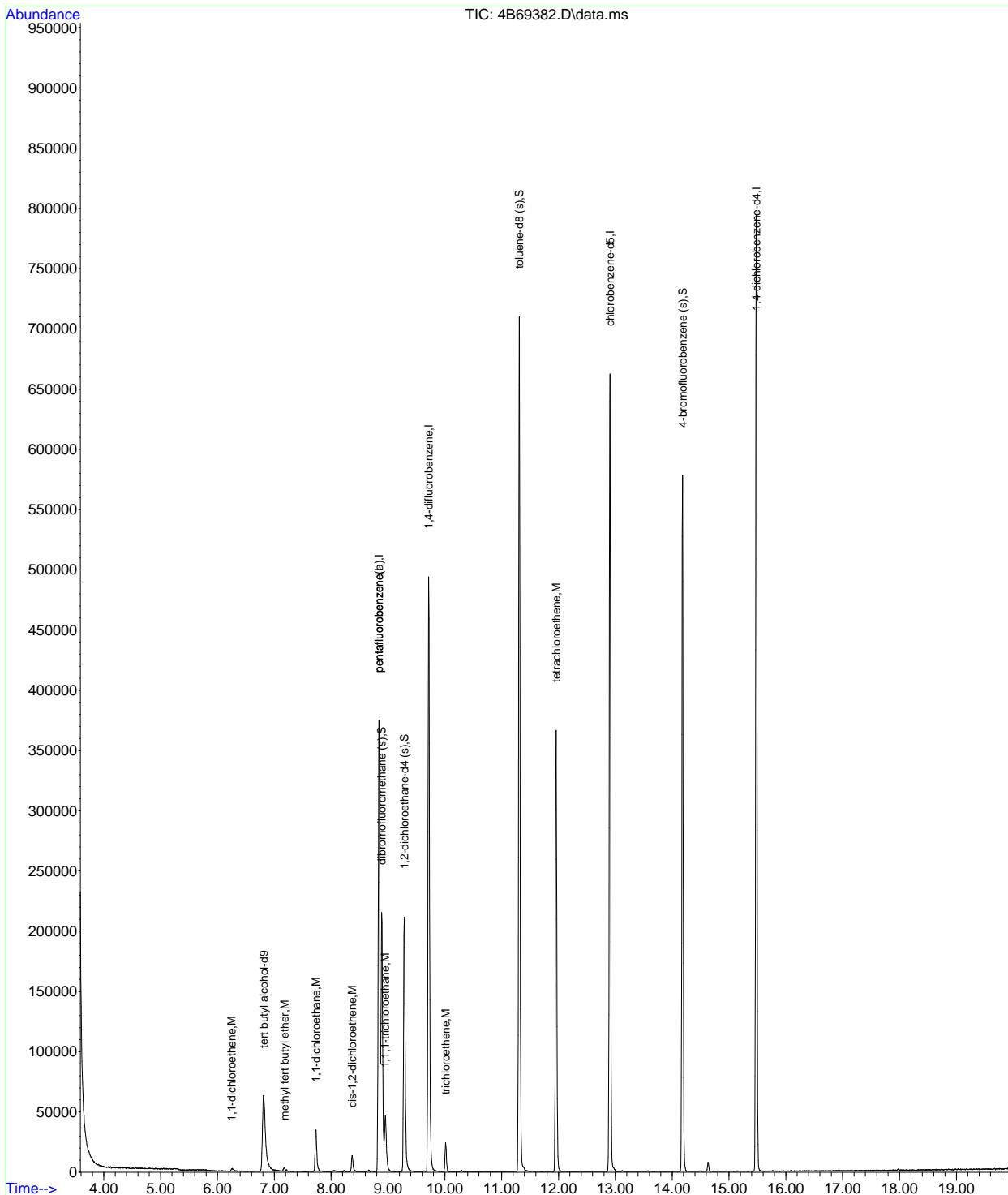
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	136325	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	278602	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	389487	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	365203	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	208452	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	278602	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	125866	53.50	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	107.00%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147177	57.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	115.50%		
80) toluene-d8 (s)	11.310	98	454983	50.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	101.16%		
105) 4-bromofluorobenzene (s)	14.182	95	176342	51.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	103.32%		
Target Compounds						
22) 1,1-dichloroethene	6.247	96	1205	0.47	ug/L	# 74
31) methyl tert butyl ether	7.178	73	3104	0.39	ug/L	99
35) 1,1-dichloroethane	7.733	63	38920	7.42	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	6422	2.21	ug/L	94
53) 1,1,1-trichloroethane	8.951	97	30512	8.31	ug/L	96
69) trichloroethene	10.013	95	8178	2.92	ug/L	96
89) tetrachloroethene	11.959	164	87001	28.96	ug/L	97

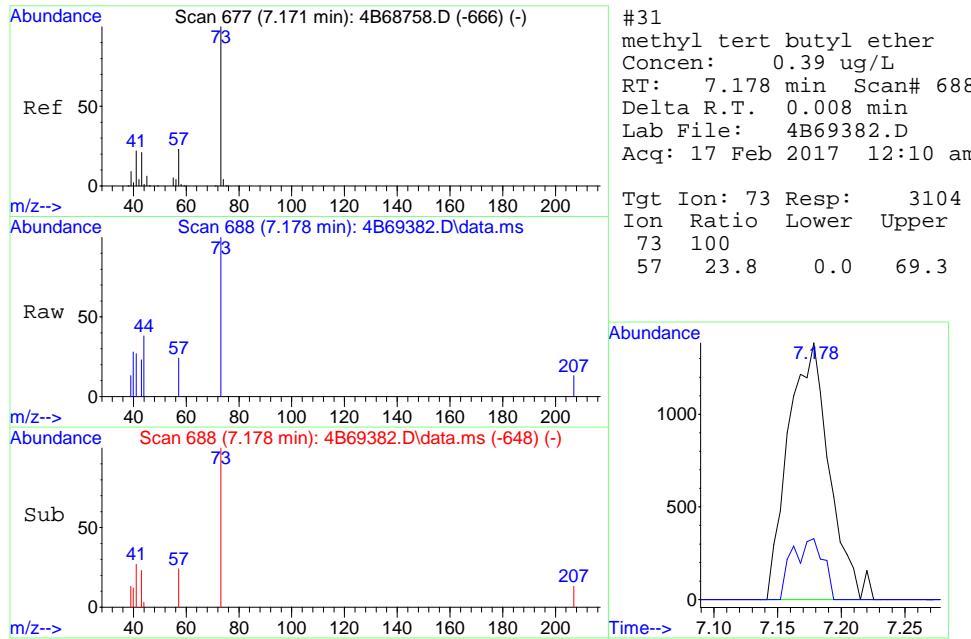
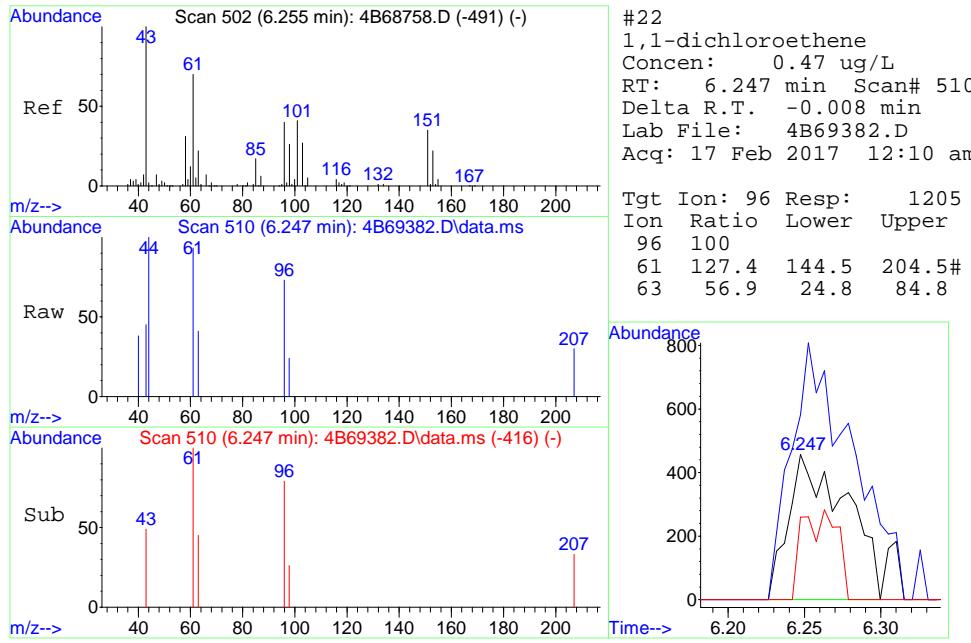
(#) = qualifier out of range (m) = manual integration (+) = signals summed

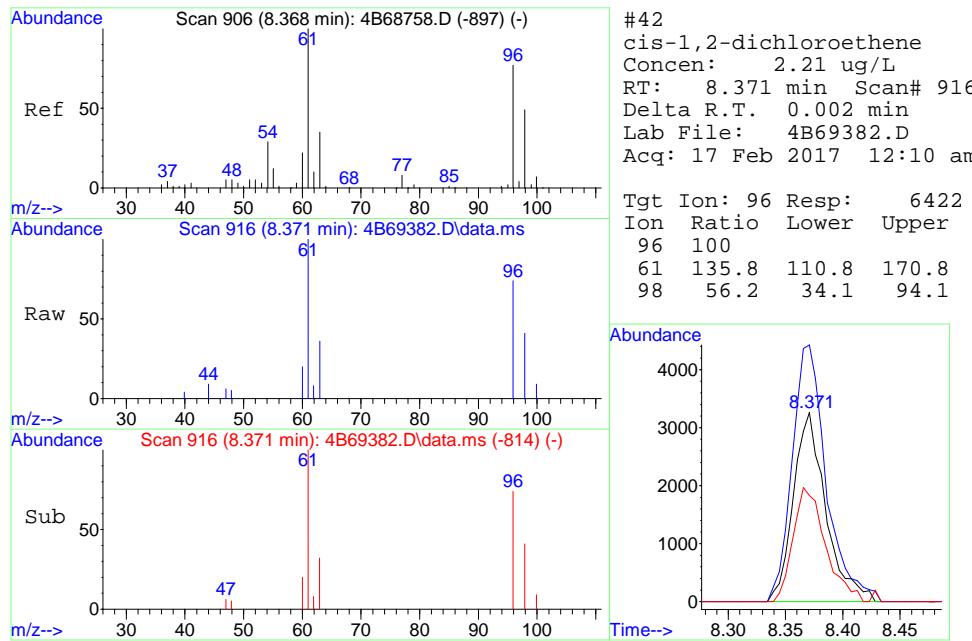
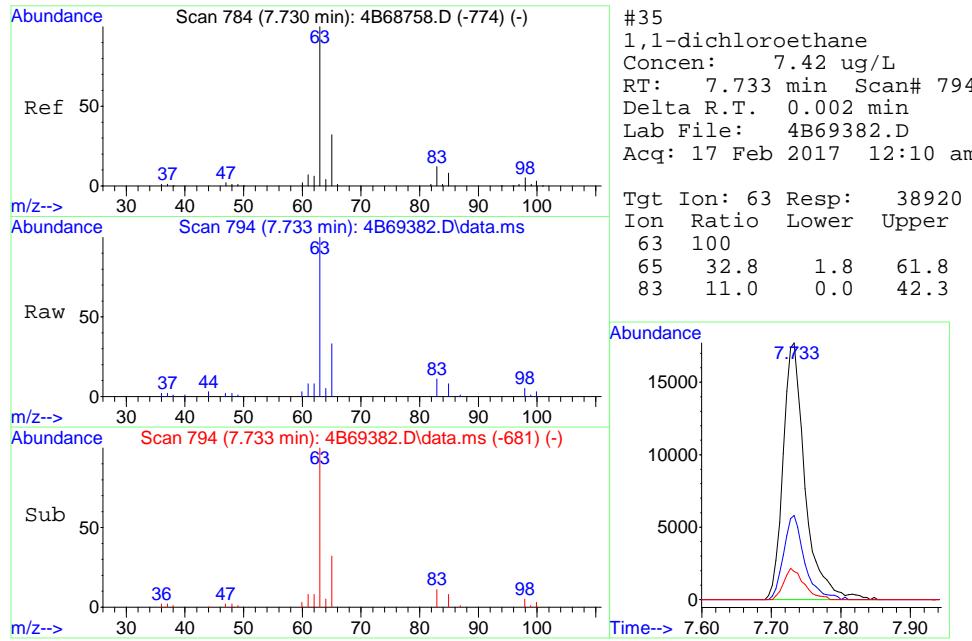
Quantitation Report (QT Reviewed)

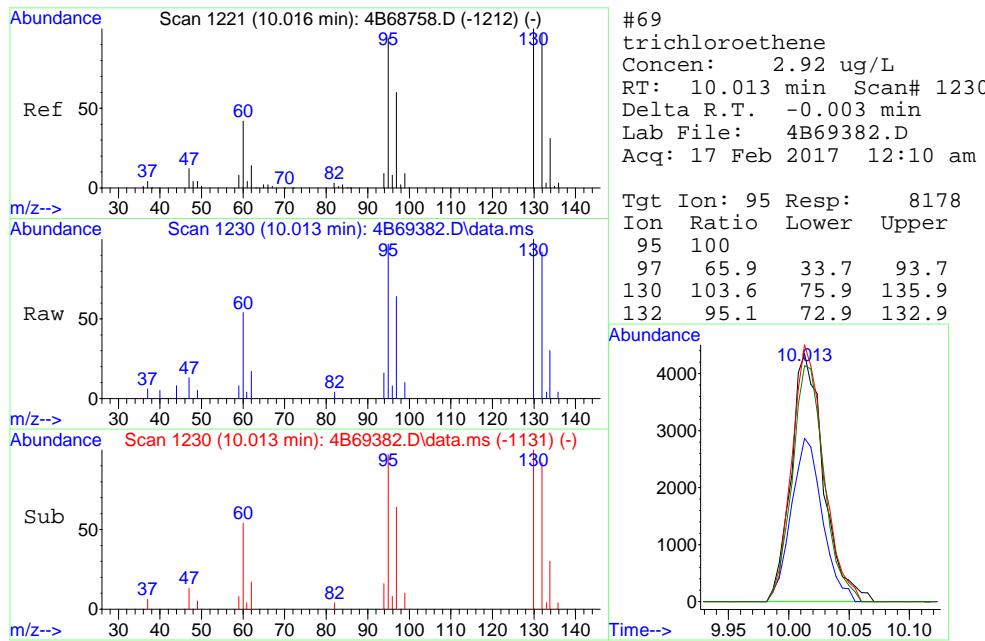
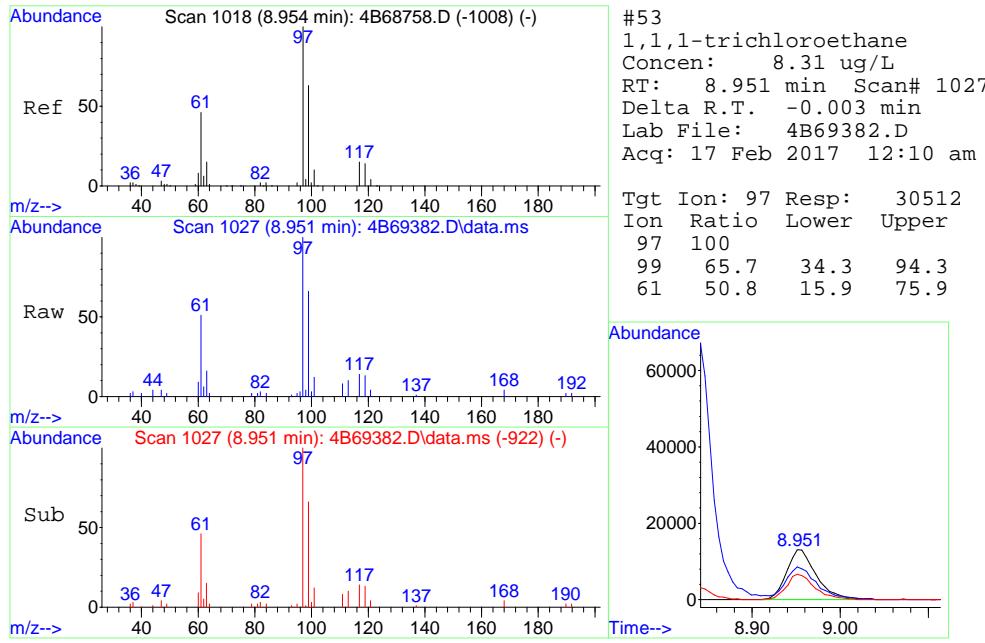
Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69382.D
 Acq On : 17 Feb 2017 12:10 am
 Operator : Hueanh
 Sample : jc37020-3
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 32 Sample Multiplier: 1

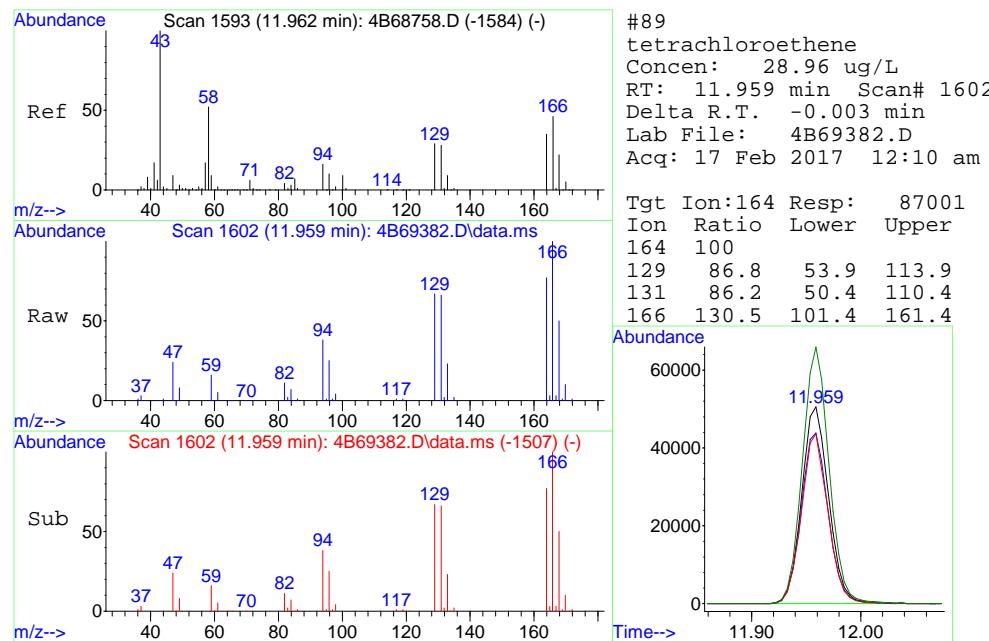
Quant Time: Feb 17 12:37:03 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration











7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69402.D
 Acq On : 17 Feb 2017 5:29 pm
 Operator : Hueanht
 Sample : jc37020-4
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 20 Sample Multiplier: 1

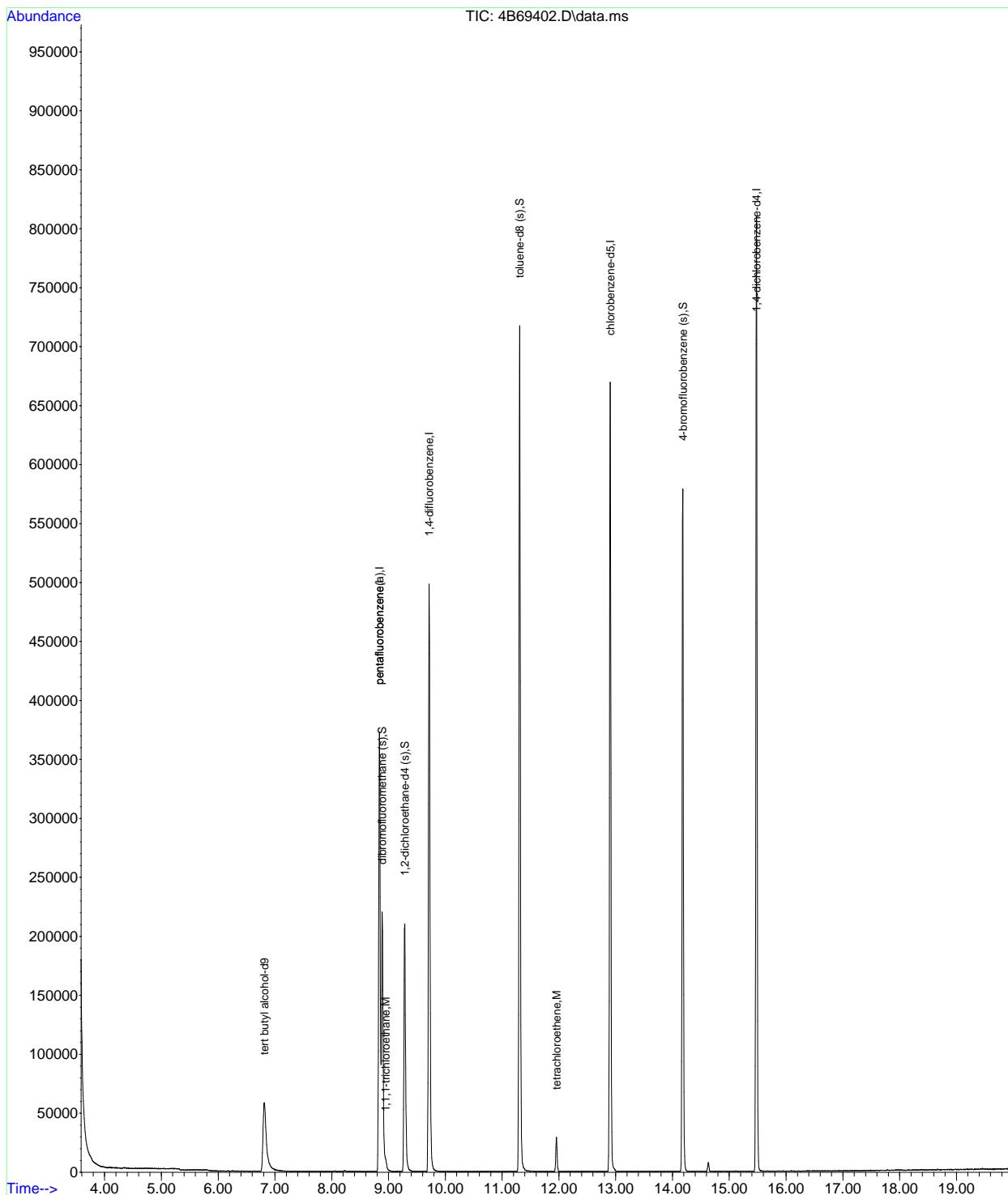
Quant Time: Feb 20 17:02:23 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

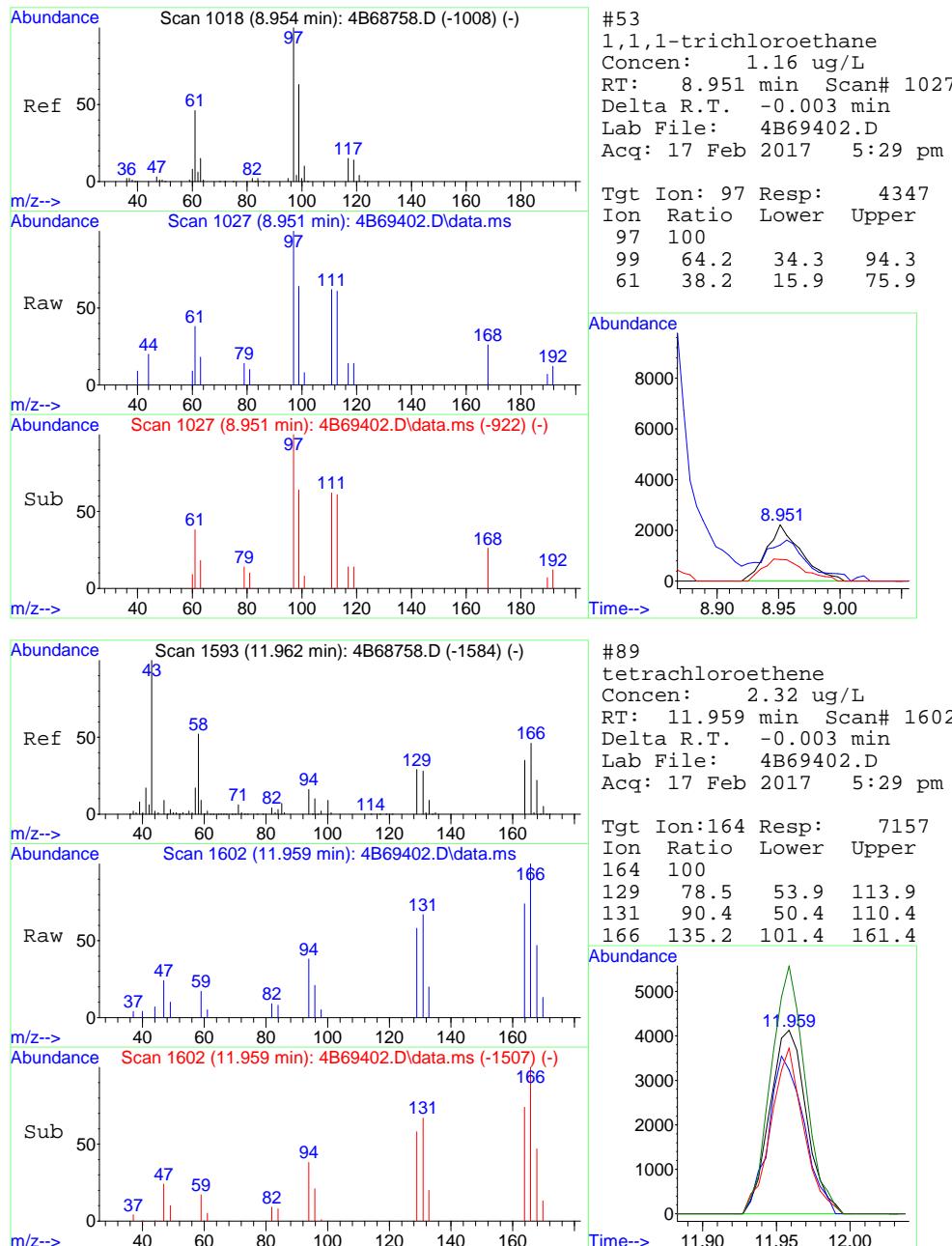
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	139915	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	285313	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	399104	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	374313	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	212707	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	285313	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	128631	53.39	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	106.78%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147278	56.43	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	112.86%	
80) toluene-d8 (s)	11.310	98	460079	49.91	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.82%	
105) 4-bromofluorobenzene (s)	14.182	95	177628	51.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.00%	
Target Compounds						
53) 1,1,1-trichloroethane	8.951	97	4347	1.16	ug/L	95
89) tetrachloroethene	11.959	164	7157	2.32	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69402.D
 Acq On : 17 Feb 2017 5:29 pm
 Operator : Hueanh
 Sample : jc37020-4
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 20 17:02:23 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69403.D
 Acq On : 17 Feb 2017 5:57 pm
 Operator : Hueanht
 Sample : jc37020-5
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 21 Sample Multiplier: 1

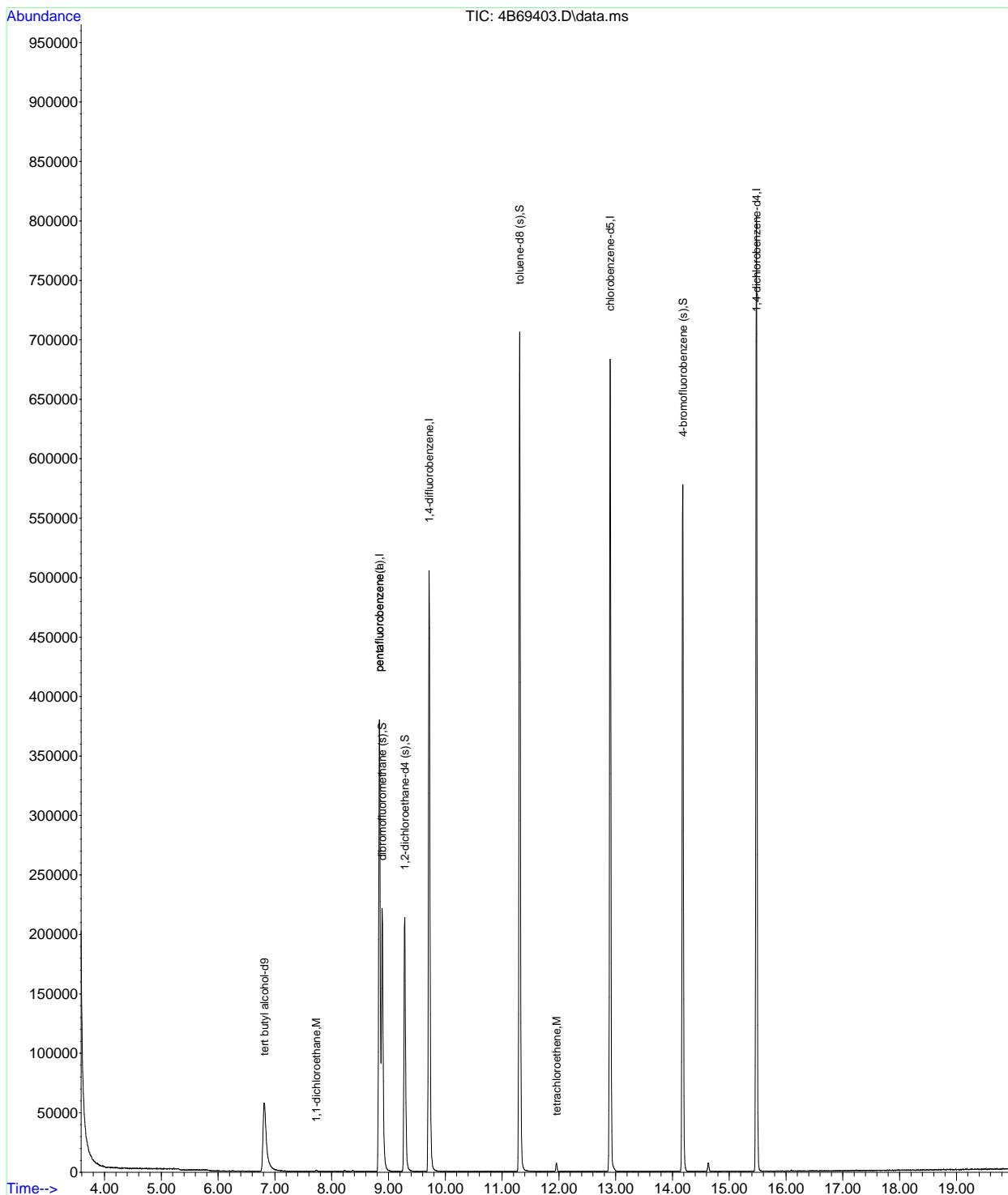
Quant Time: Feb 20 17:03:04 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

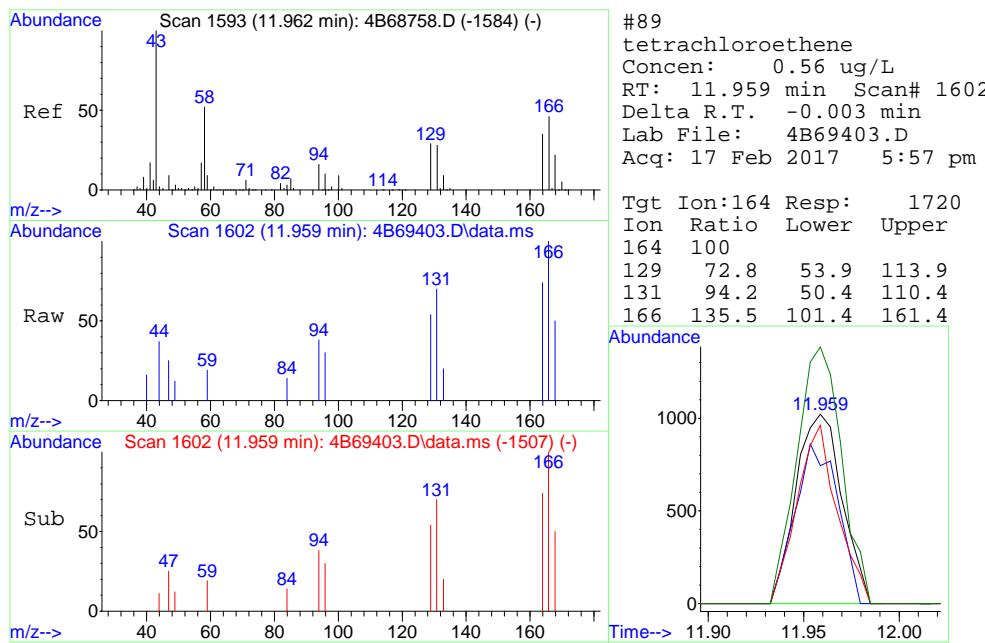
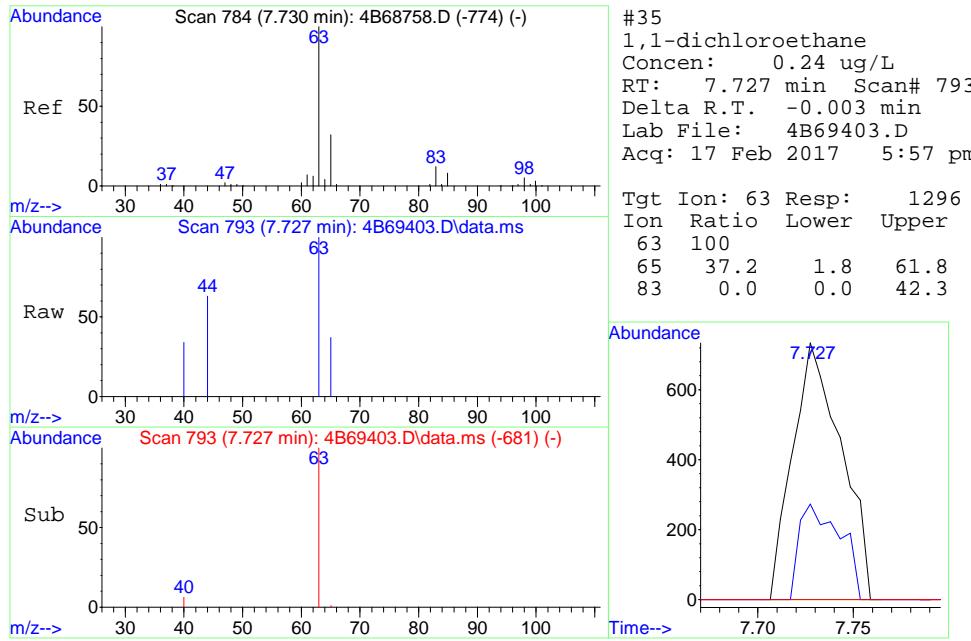
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	137171	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	285186	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	400565	50.00	ug/L	0.00
88) chlorobenzene-d5	12.900	117	375749	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	209020	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	285186	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	130922	54.36	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	108.72%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150519	57.70	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	115.40%	
80) toluene-d8 (s)	11.310	98	458955	49.61	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.22%	
105) 4-bromofluorobenzene (s)	14.182	95	177178	51.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.54%	
Target Compounds						
35) 1,1-dichloroethane	7.727	63	1296	0.24	ug/L	84
89) tetrachloroethene	11.959	164	1720	0.56	ug/L	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69403.D
 Acq On : 17 Feb 2017 5:57 pm
 Operator : Hueanh
 Sample : jc37020-5
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 20 17:03:04 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69404.D
 Acq On : 17 Feb 2017 6:26 pm
 Operator : Hueanht
 Sample : jc37020-6
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

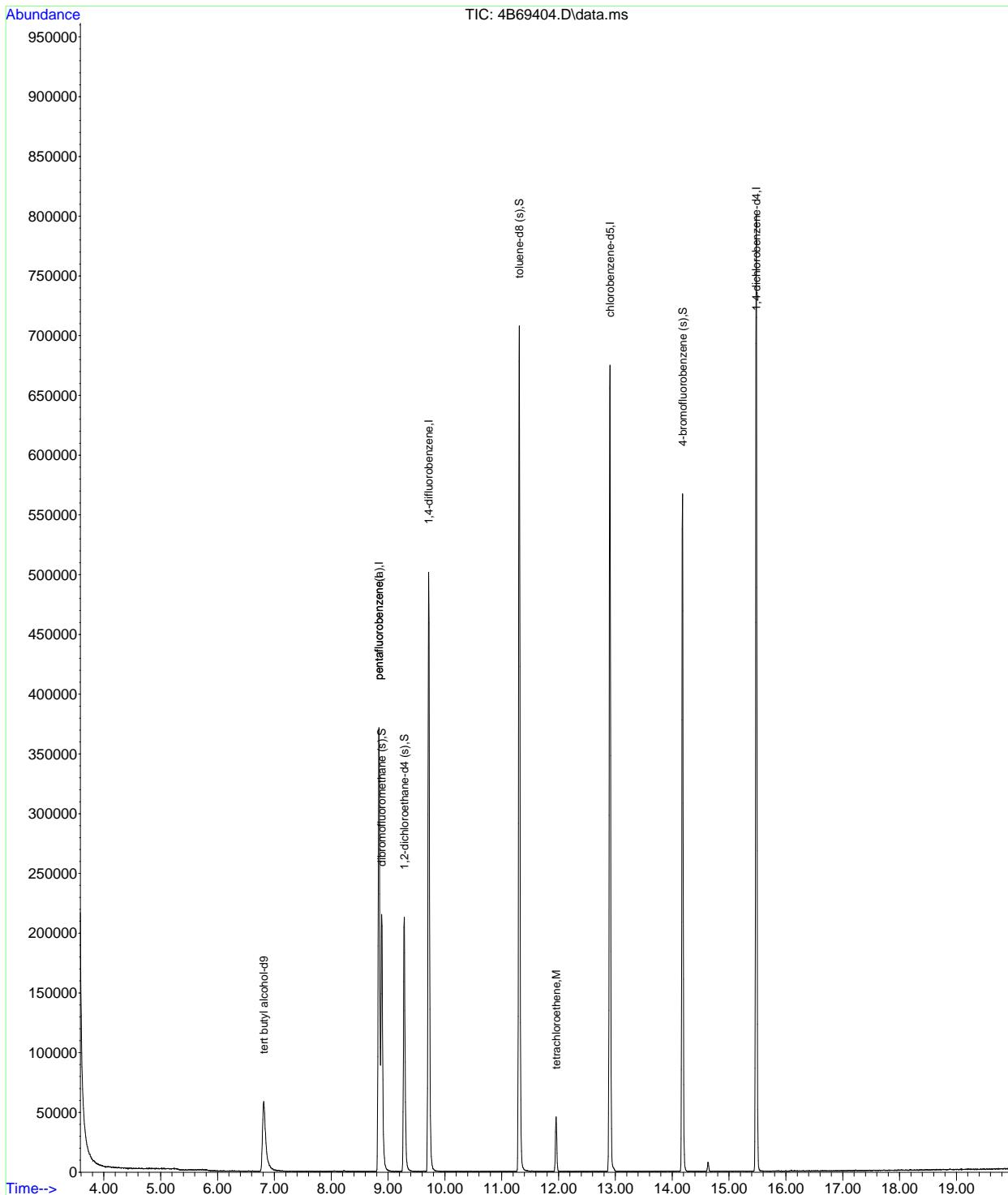
Quant Time: Feb 20 17:03:26 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

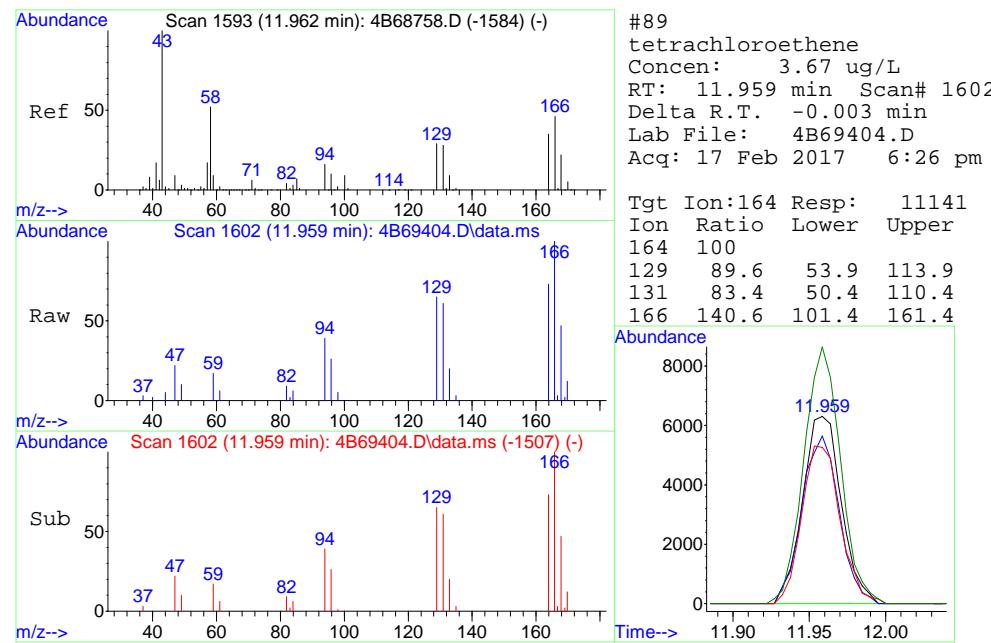
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	134314	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	281888	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	396787	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	369438	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	208270	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	281888	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	126936	53.32	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	106.64%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	148493	57.59	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	115.18%	
80) toluene-d8 (s)	11.310	98	460785	50.28	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.56%	
105) 4-bromofluorobenzene (s)	14.181	95	176238	51.68	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.36%	
Target Compounds						
89) tetrachloroethene	11.959	164	11141	3.67	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69404.D
 Acq On : 17 Feb 2017 6:26 pm
 Operator : Hueanh
 Sample : jc37020-6
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 20 17:03:26 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration





7.1.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69405.D
 Acq On : 17 Feb 2017 6:56 pm
 Operator : Hueanht
 Sample : jc37020-7
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 23 Sample Multiplier: 1

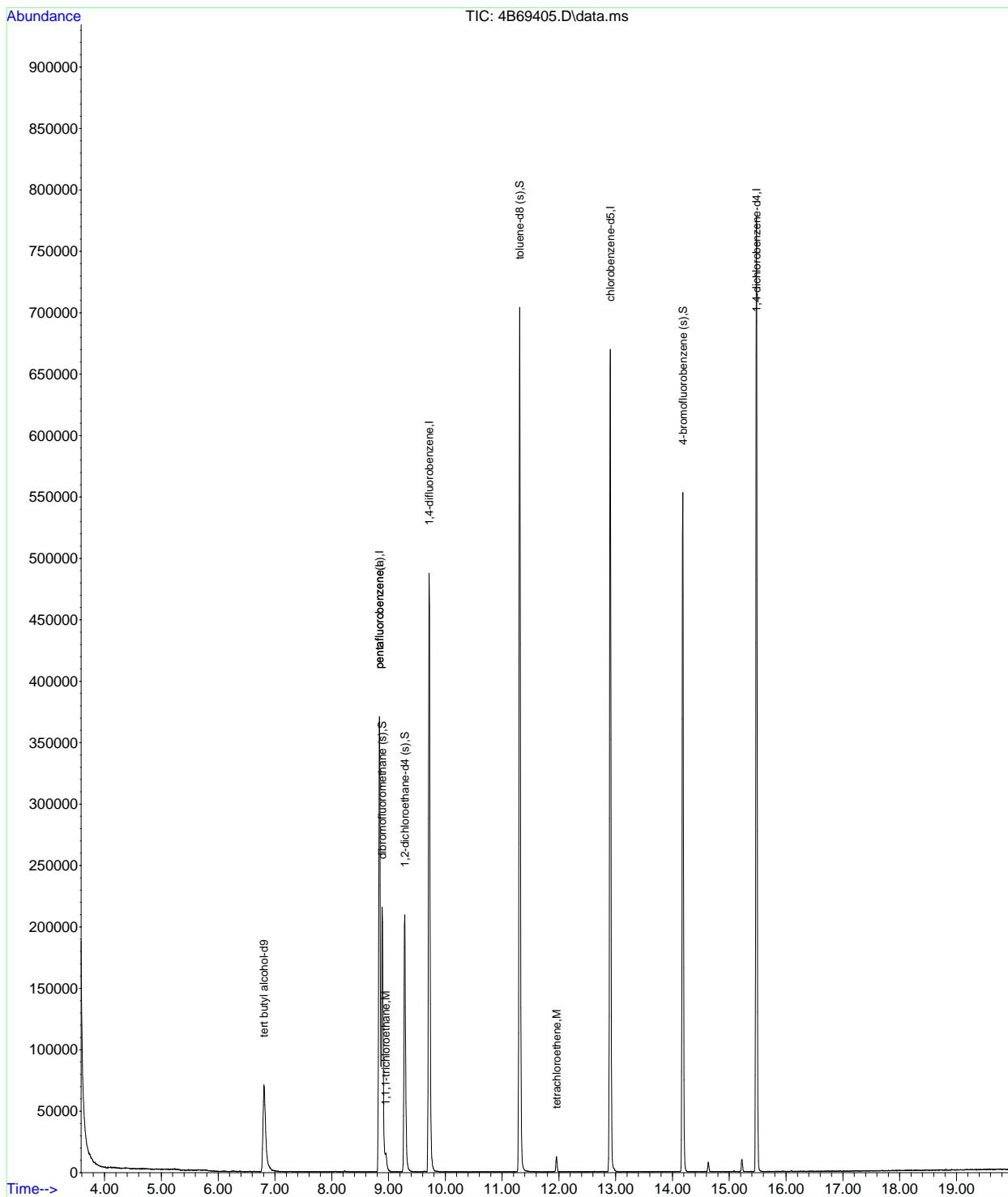
Quant Time: Feb 20 17:03:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

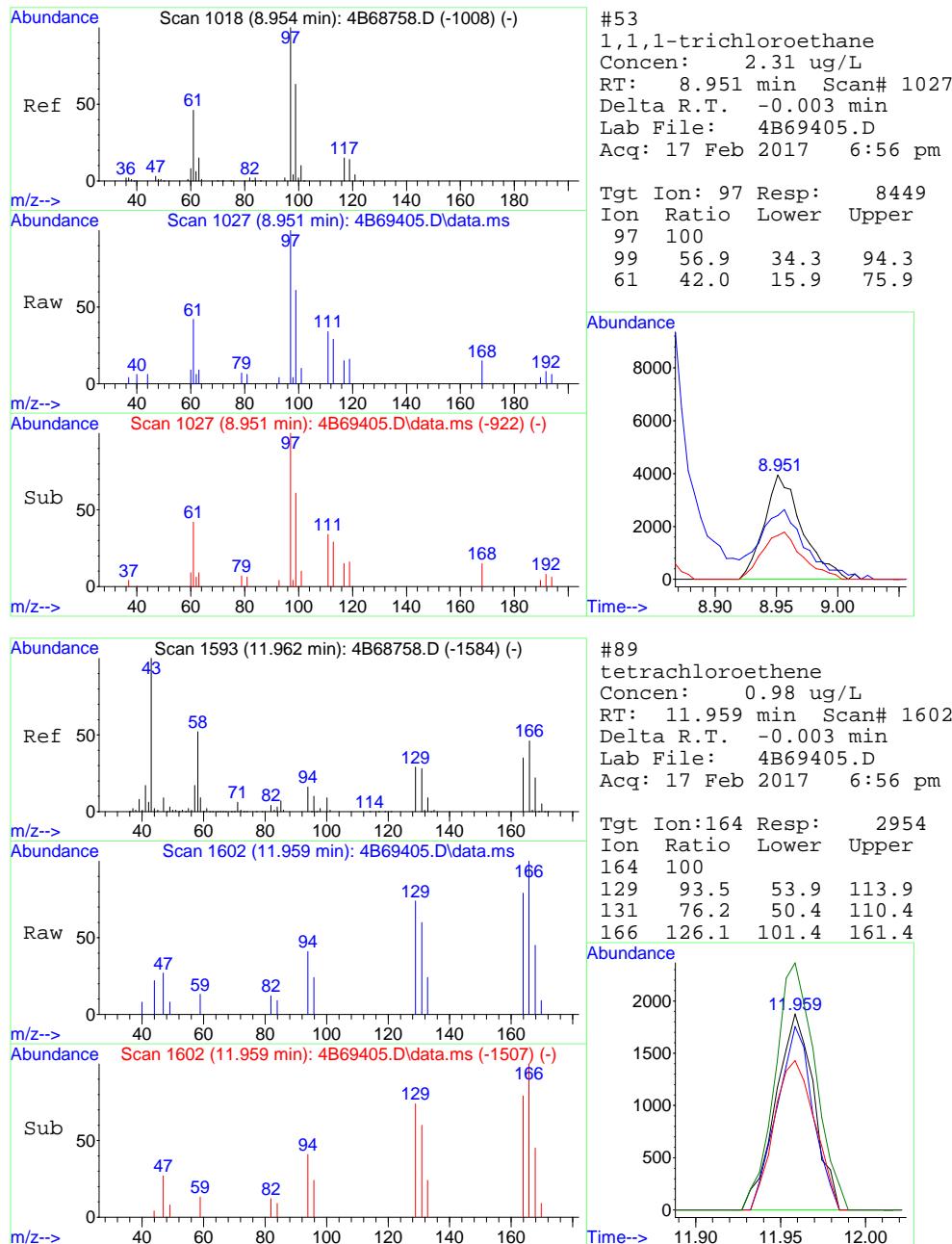
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	131717	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	277045	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	386804	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	364654	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	201829	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	277045	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	125234	53.53	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.06%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	146343	57.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	115.50%	
80) toluene-d8 (s)	11.310	98	452957	50.70	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.40%	
105) 4-bromofluorobenzene (s)	14.181	95	171586	51.92	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.84%	
Target Compounds						
53) 1,1,1-trichloroethane	8.951	97	8449	2.31	ug/L	92
89) tetrachloroethene	11.959	164	2954	0.98	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69405.D
 Acq On : 17 Feb 2017 6:56 pm
 Operator : Hueanh
 Sample : jc37020-7
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 20 17:03:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69380.D
 Acq On : 16 Feb 2017 11:14 pm
 Operator : Hueanht
 Sample : jc37020-8
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 30 Sample Multiplier: 1

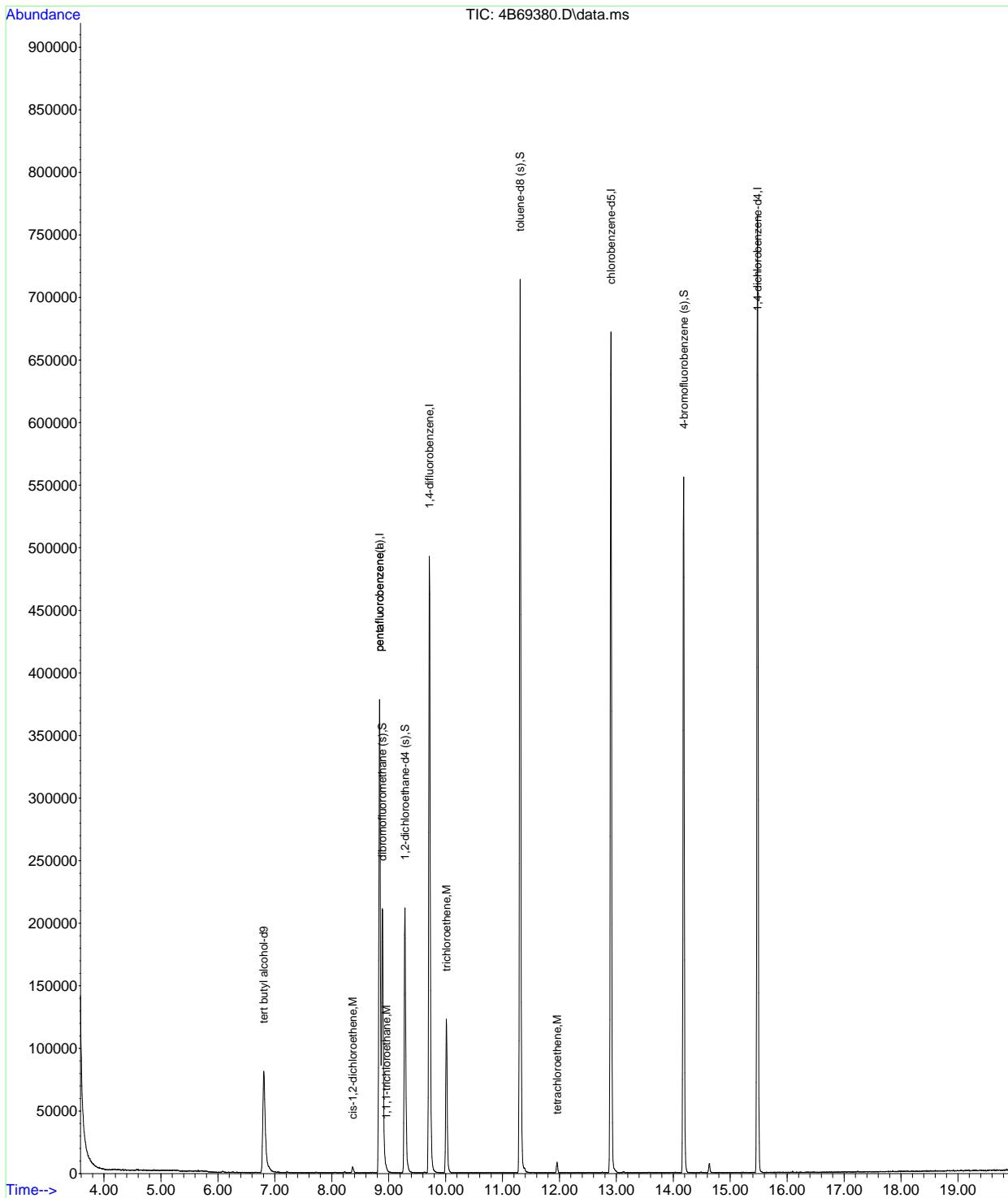
Quant Time: Feb 17 12:35:12 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

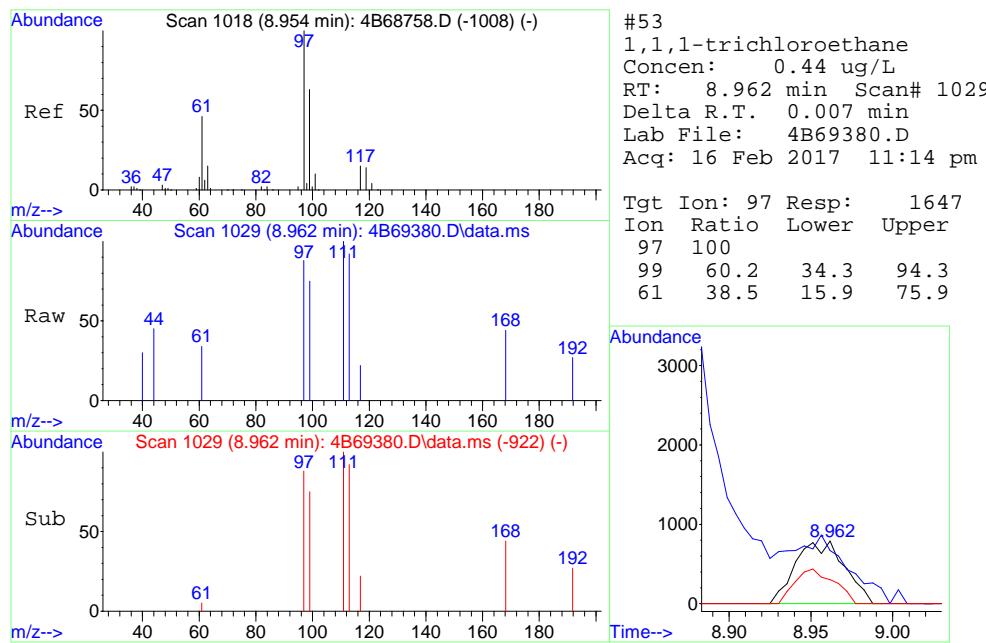
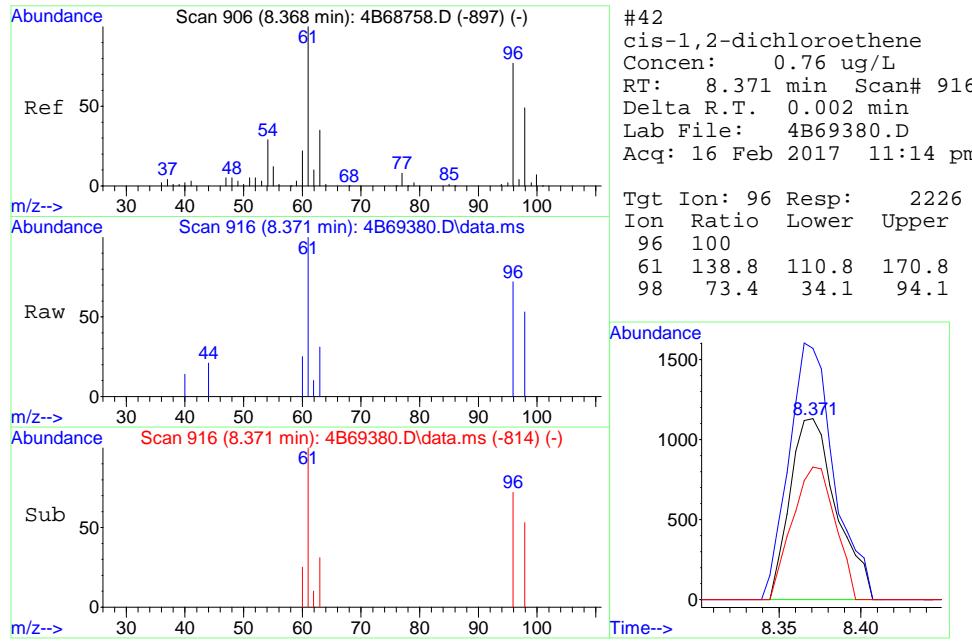
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	141401	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	282550	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	390442	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	366542	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	202883	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282550	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	125147	52.45	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	104.90%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	144402	55.87	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	111.74%	
80) toluene-d8 (s)	11.310	98	449718	49.87	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.74%	
105) 4-bromofluorobenzene (s)	14.181	95	171624	51.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.32%	
Target Compounds						
				Qvalue		
42) cis-1,2-dichloroethene	8.371	96	2226	0.76	ug/L	95
53) 1,1,1-trichloroethane	8.962	97	1647	0.44	ug/L	92
69) trichloroethene	10.013	95	40256	14.36	ug/L	98
89) tetrachloroethene	11.959	164	2186	0.73	ug/L	97

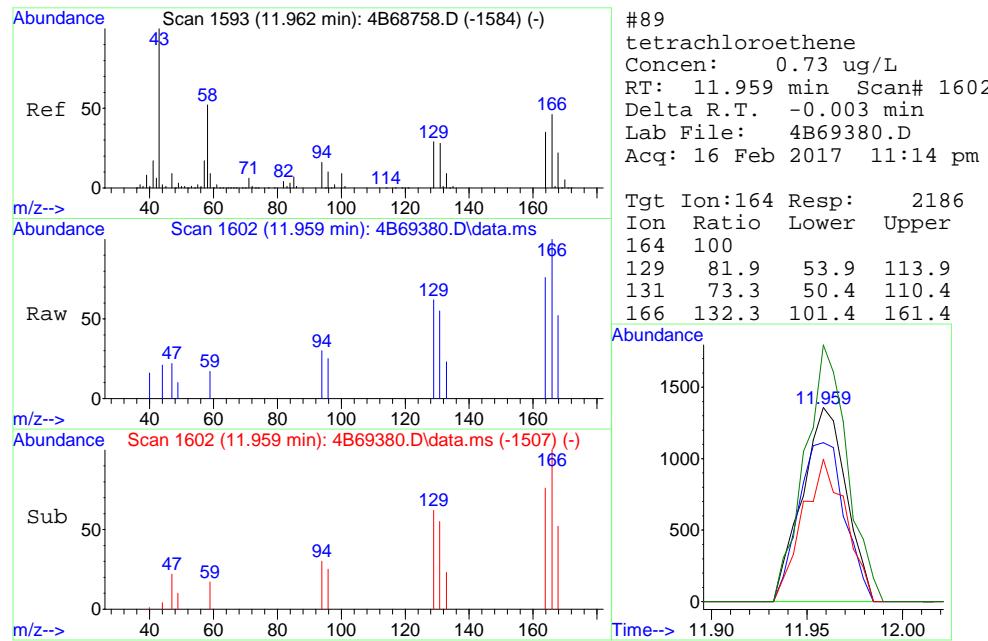
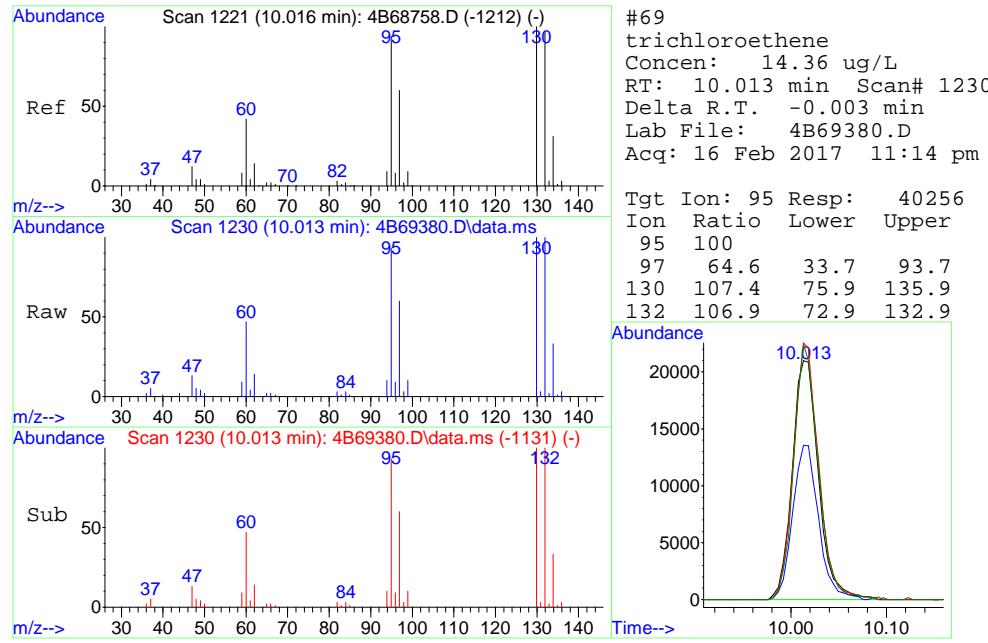
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69380.D
 Acq On : 16 Feb 2017 11:14 pm
 Operator : Hueanh
 Sample : jc37020-8
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 30 Sample Multiplier: 1

Quant Time: Feb 17 12:35:12 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69381.D
 Acq On : 16 Feb 2017 11:42 pm
 Operator : Hueanht
 Sample : jc37020-9
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 31 Sample Multiplier: 1

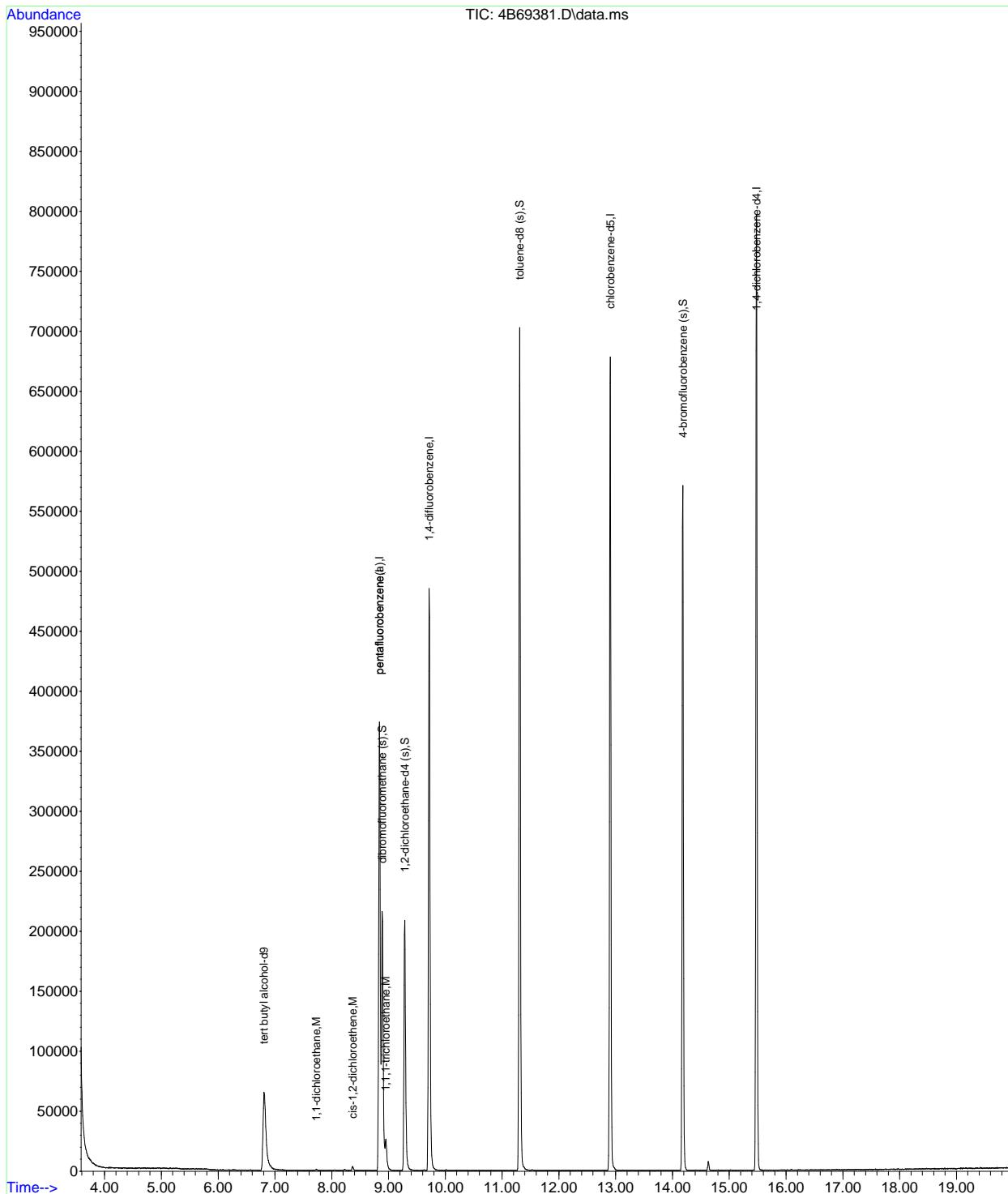
Quant Time: Feb 17 12:35:45 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

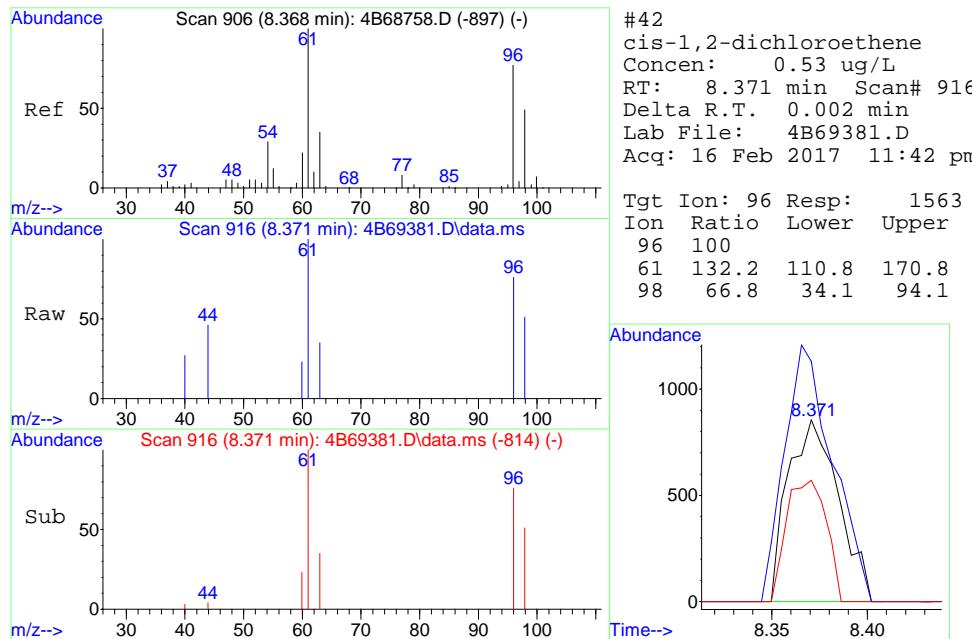
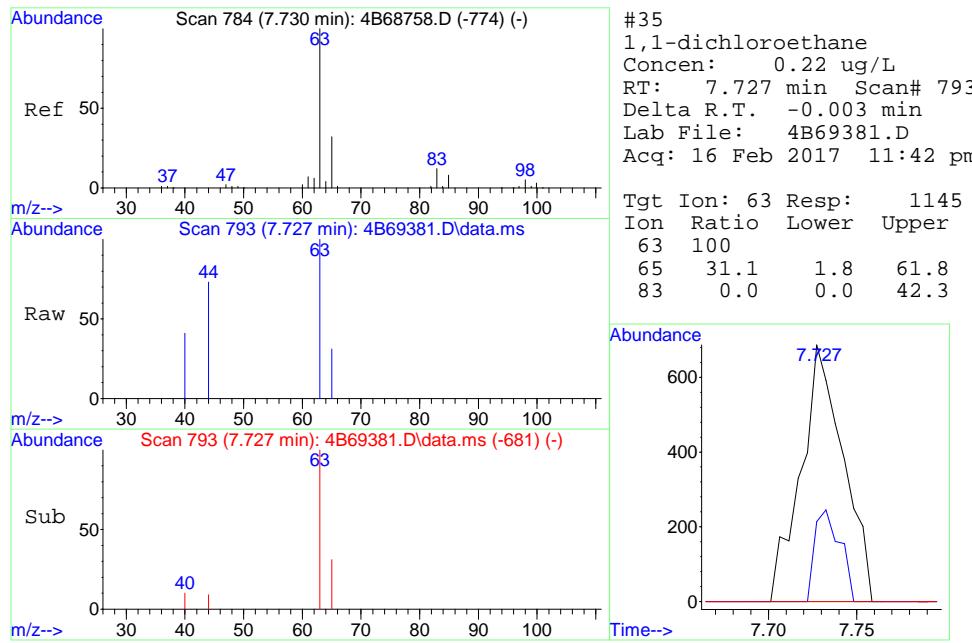
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	137624	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	282415	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	393366	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	371774	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	209416	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282415	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	127881	53.62	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.24%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147395	57.06	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	114.12%	
80) toluene-d8 (s)	11.310	98	459438	50.57	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.14%	
105) 4-bromofluorobenzene (s)	14.181	95	176393	51.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.88%	
Target Compounds						
35) 1,1-dichloroethane	7.727	63	1145	0.22	ug/L	90
42) cis-1,2-dichloroethene	8.371	96	1563	0.53	ug/L	94
53) 1,1,1-trichloroethane	8.951	97	16186	4.35	ug/L	98

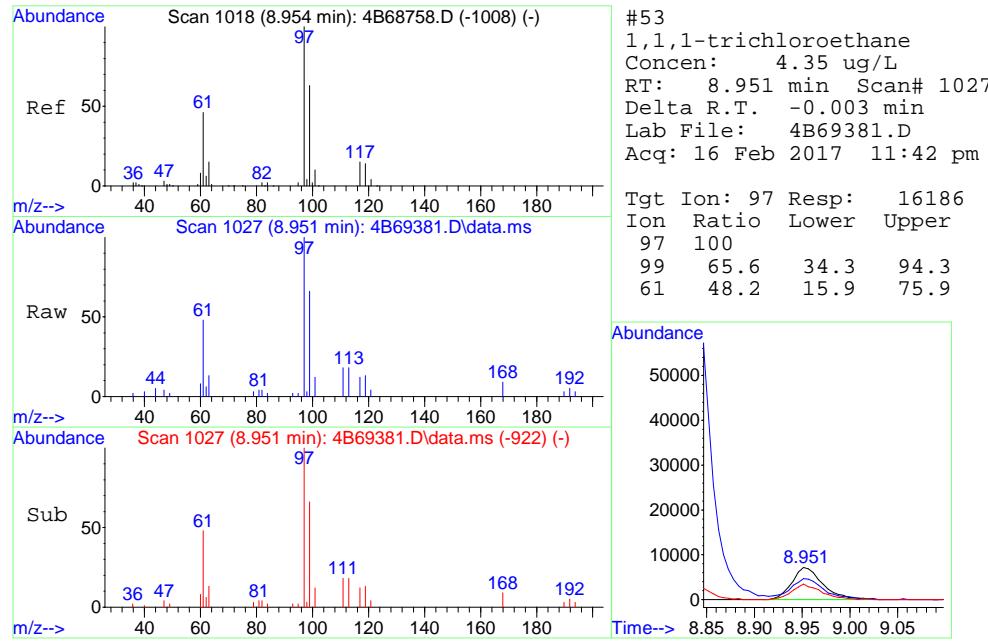
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69381.D
 Acq On : 16 Feb 2017 11:42 pm
 Operator : Hueanh
 Sample : jc37020-9
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 17 12:35:45 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69368.D
 Acq On : 16 Feb 2017 5:31 pm
 Operator : Hueanht
 Sample : jc37020-10
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 18 Sample Multiplier: 1

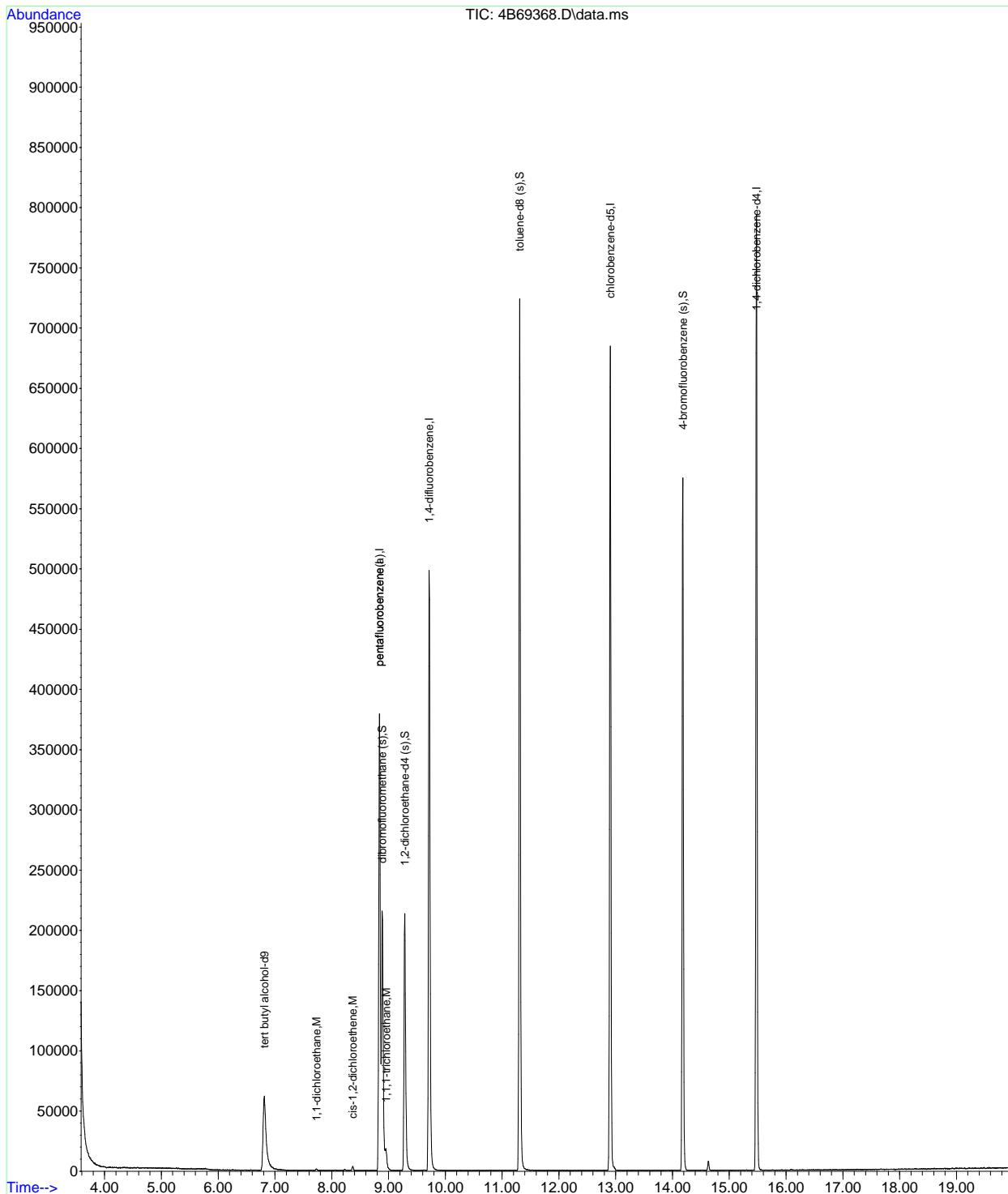
Quant Time: Feb 17 12:27:28 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

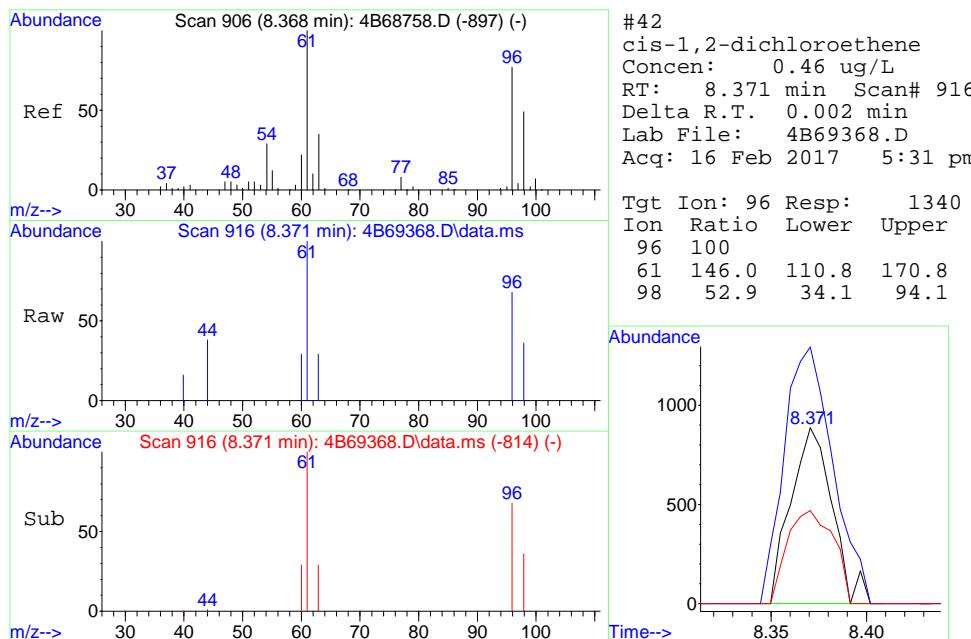
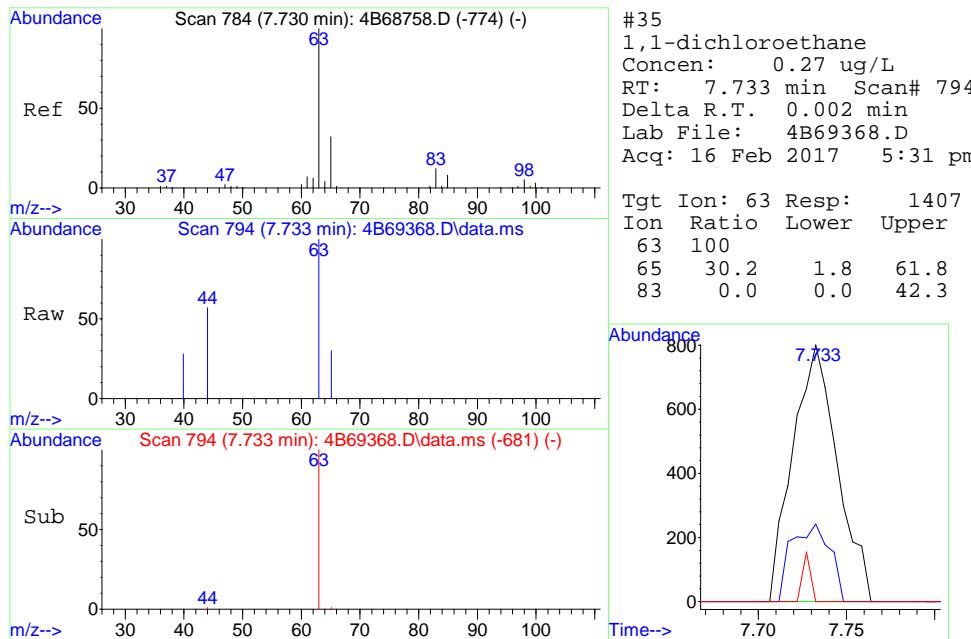
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	133097	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	280762	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	393964	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	372087	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	205785	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	280762	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	127522	53.78	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.56%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	149225	58.10	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	116.20%	
80) toluene-d8 (s)	11.310	98	459278	50.48	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.96%	
105) 4-bromofluorobenzene (s)	14.181	95	175966	52.22	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.44%	
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	1407	0.27	ug/L	89
42) cis-1,2-dichloroethene	8.371	96	1340	0.46	ug/L	93
53) 1,1,1-trichloroethane	8.956	97	10312	2.79	ug/L	97

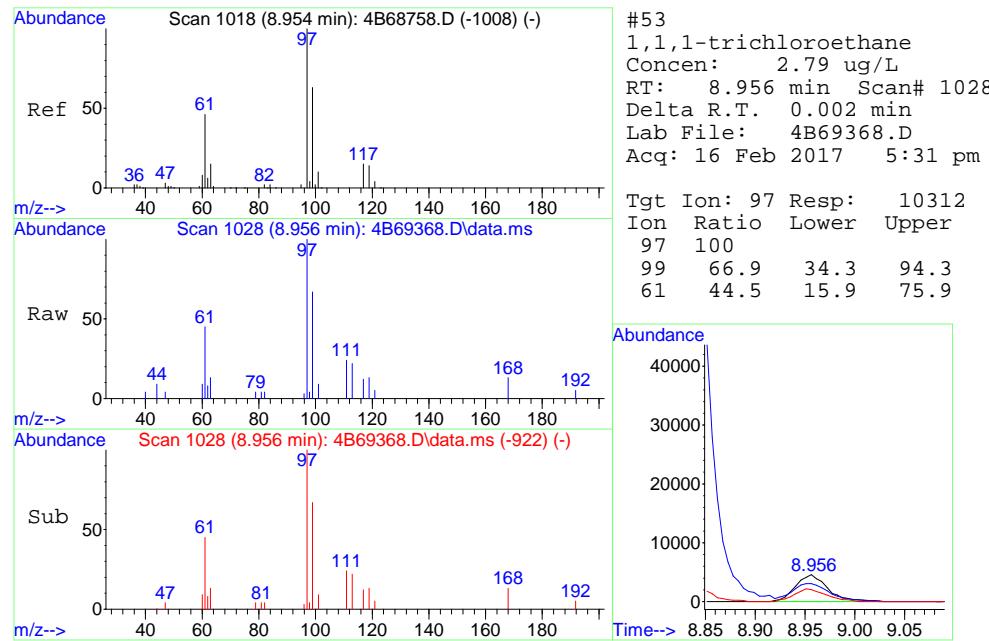
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69368.D
 Acq On : 16 Feb 2017 5:31 pm
 Operator : Hueanh
 Sample : jc37020-10
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 17 12:27:28 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69367.D
 Acq On : 16 Feb 2017 5:03 pm
 Operator : Hueanht
 Sample : jc37020-11
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 17 12:26:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

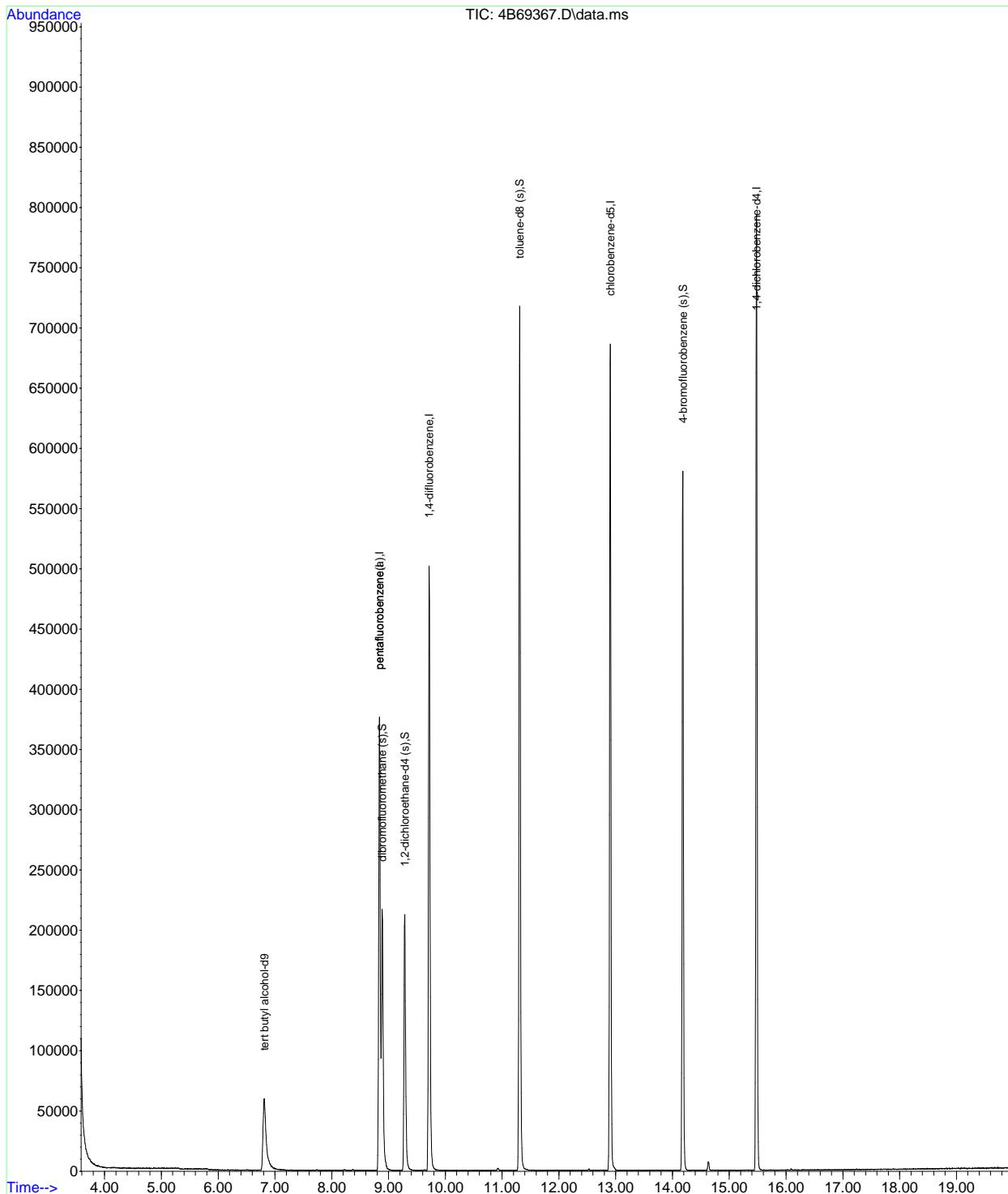
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	135561	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	282885	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	400638	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	374286	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	207546	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282885	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	128059	53.60	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.20%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	150392	58.12	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	116.24%	
80) toluene-d8 (s)	11.310	98	461892	49.92	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.84%	
105) 4-bromofluorobenzene (s)	14.181	95	178258	52.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.90%	

Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69367.D
 Acq On : 16 Feb 2017 5:03 pm
 Operator : Hueanh
 Sample : jc37020-11
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 17 12:26:56 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69366.D
 Acq On : 16 Feb 2017 4:35 pm
 Operator : Hueanht
 Sample : jc37020-12
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 16 Sample Multiplier: 1

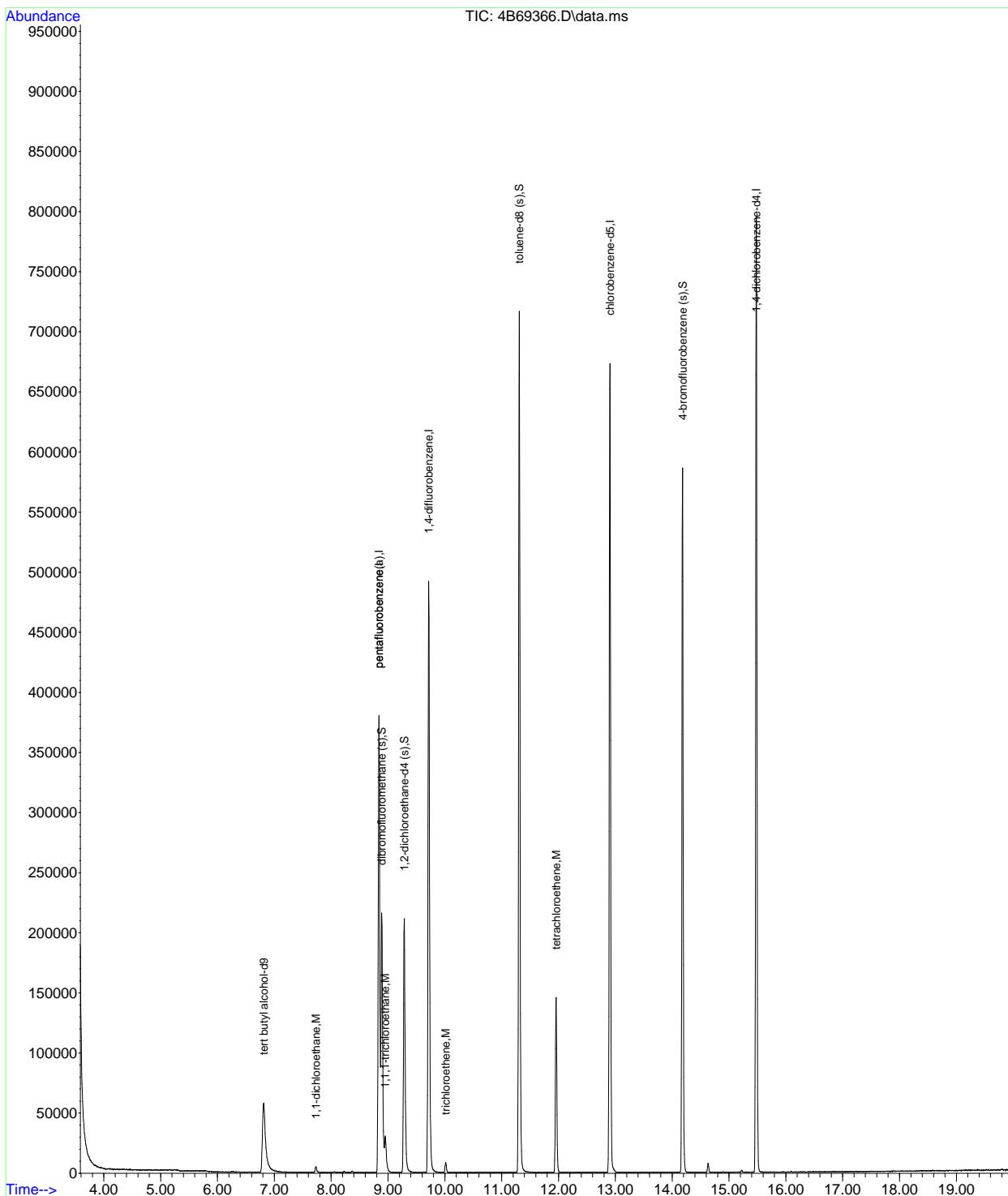
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 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

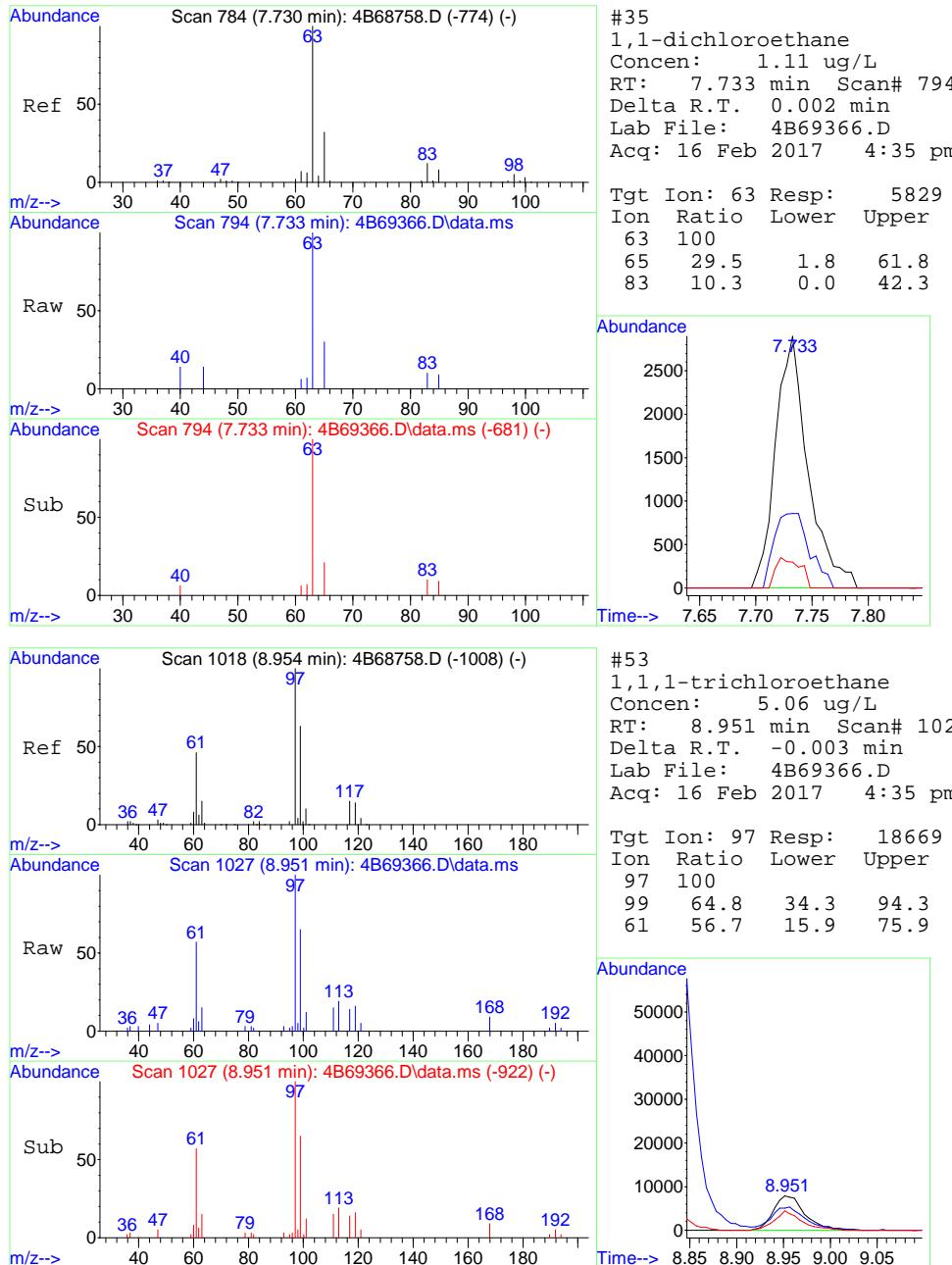
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	131117	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	279550	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	391793	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	367736	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	208617	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	279550	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	127039	53.81	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.62%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147482	57.67	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	115.34%	
80) toluene-d8 (s)	11.310	98	456317	50.43	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.86%	
105) 4-bromofluorobenzene (s)	14.182	95	177341	51.91	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	103.82%	
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	5829	1.11	ug/L	96
53) 1,1,1-trichloroethane	8.951	97	18669	5.06	ug/L	93
69) trichloroethene	10.013	95	2869	1.02	ug/L	94
89) tetrachloroethene	11.959	164	34945	11.55	ug/L	97

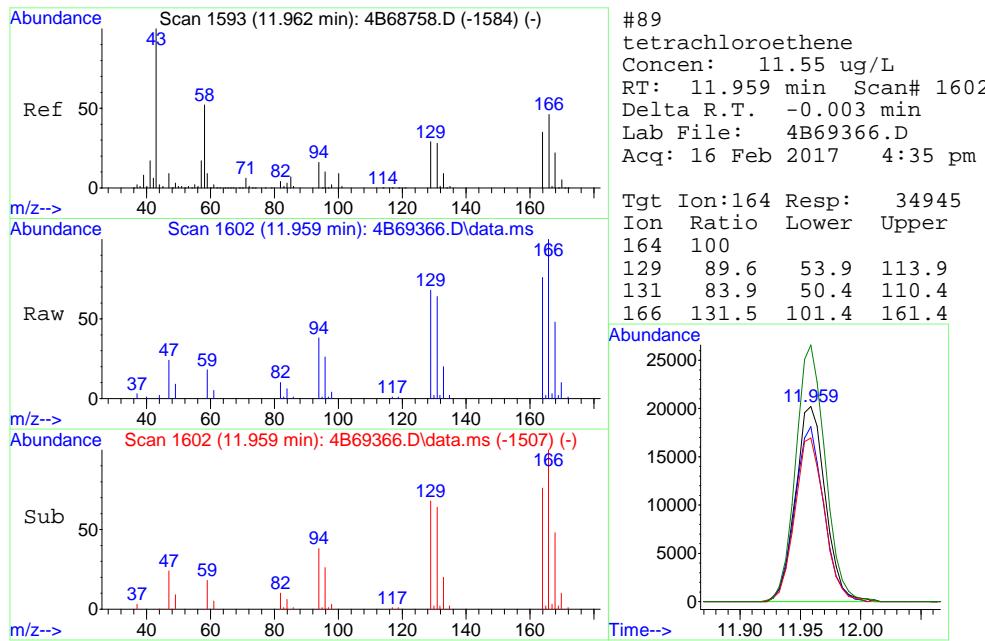
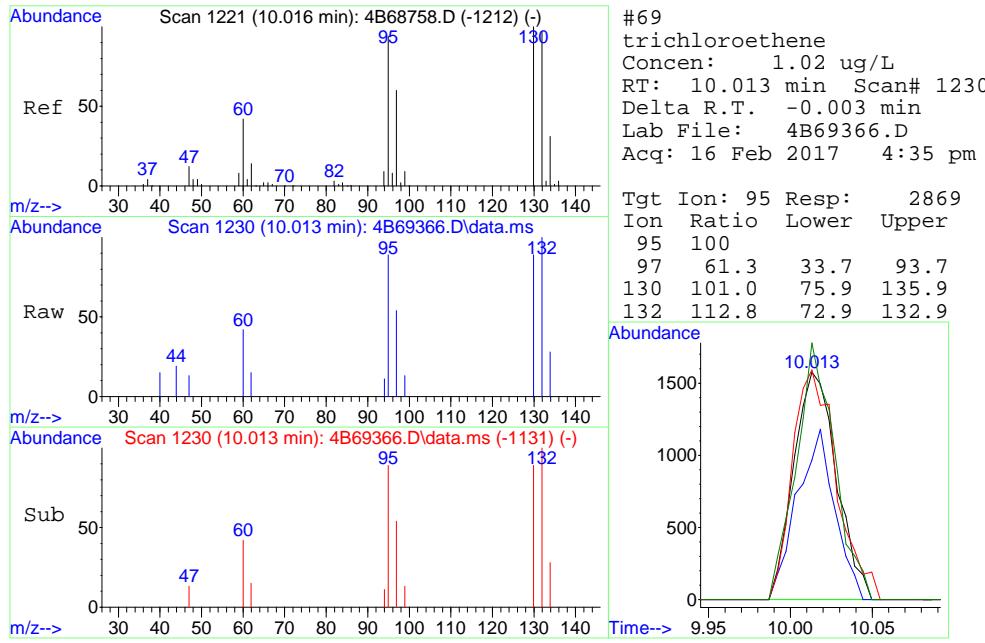
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69366.D
 Acq On : 16 Feb 2017 4:35 pm
 Operator : Hueanh
 Sample : jc37020-12
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 17 12:25:01 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69378.D
 Acq On : 16 Feb 2017 10:16 pm
 Operator : Hueanht
 Sample : jc37020-13
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 28 Sample Multiplier: 1

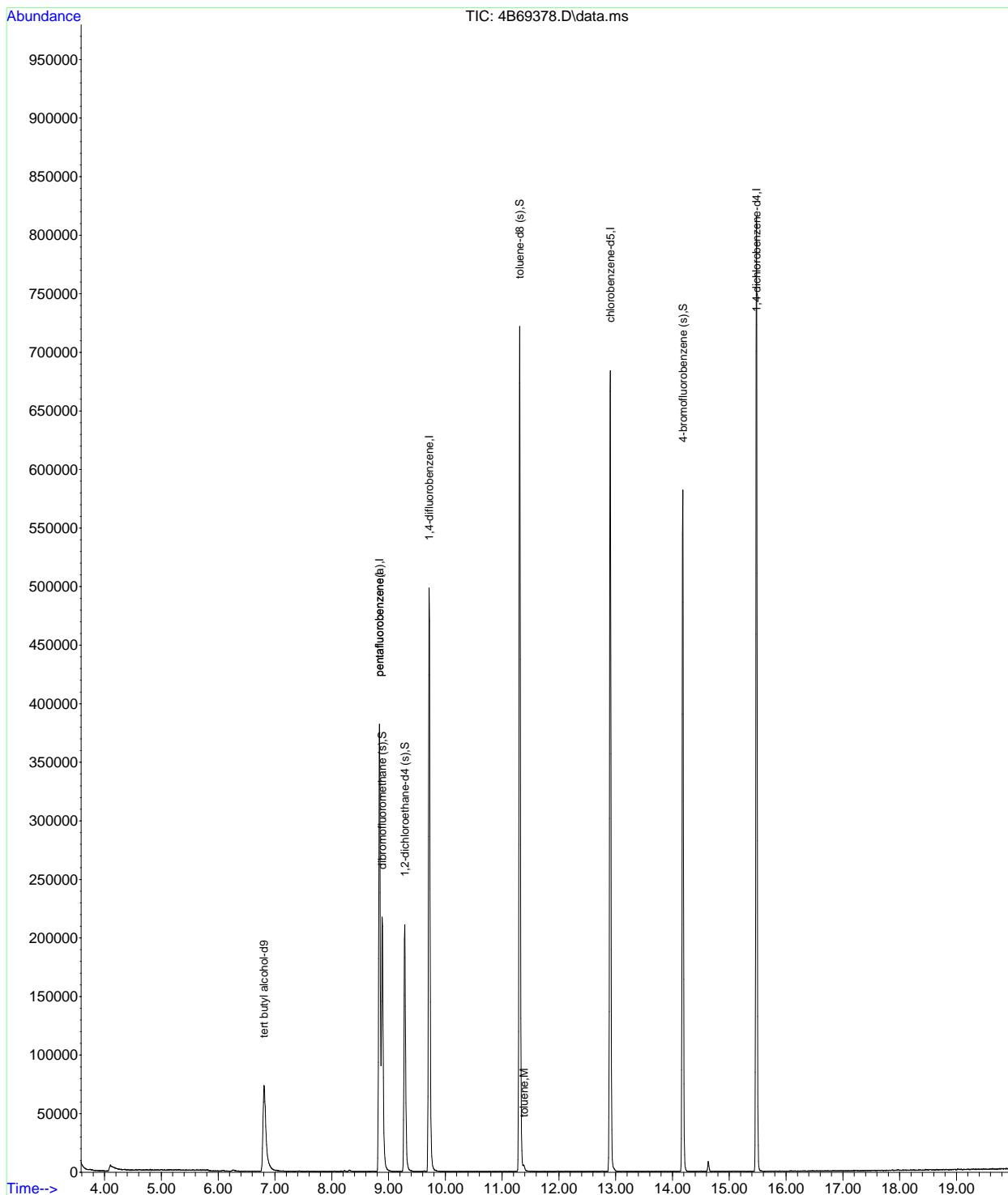
Quant Time: Feb 17 12:34:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

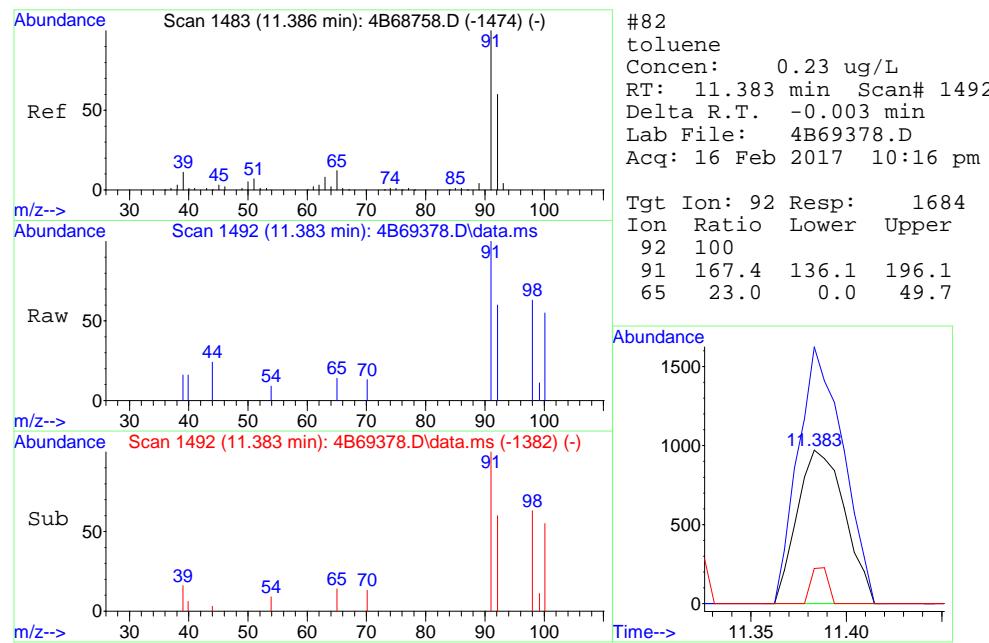
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	153988	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	289591	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	401264	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	377893	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215581	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	289591	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	128779	52.66	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	105.32%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	145826	55.05	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	110.10%		
80) toluene-d8 (s)	11.310	98	464378	50.11	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.22%		
105) 4-bromofluorobenzene (s)	14.181	95	181149	51.32	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	102.64%		
Target Compounds						
82) toluene	11.383	92	1684	0.23	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69378.D
 Acq On : 16 Feb 2017 10:16 pm
 Operator : Hueanh
 Sample : jc37020-13
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 28 Sample Multiplier: 1

Quant Time: Feb 17 12:34:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration





Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69365.D
 Acq On : 16 Feb 2017 4:07 pm
 Operator : Hueanht
 Sample : jc37020-14
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 15 Sample Multiplier: 1

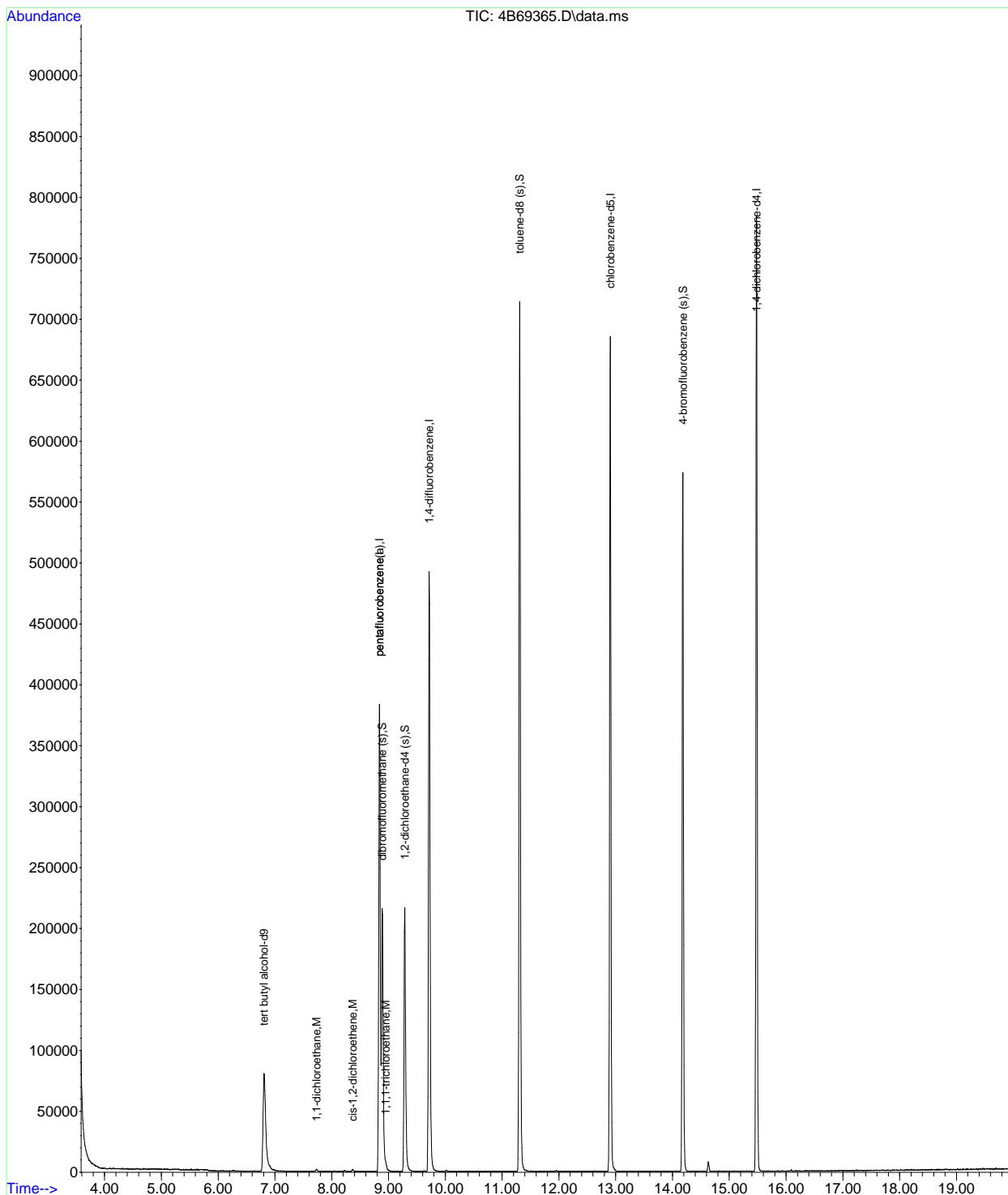
Quant Time: Feb 17 12:24:17 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

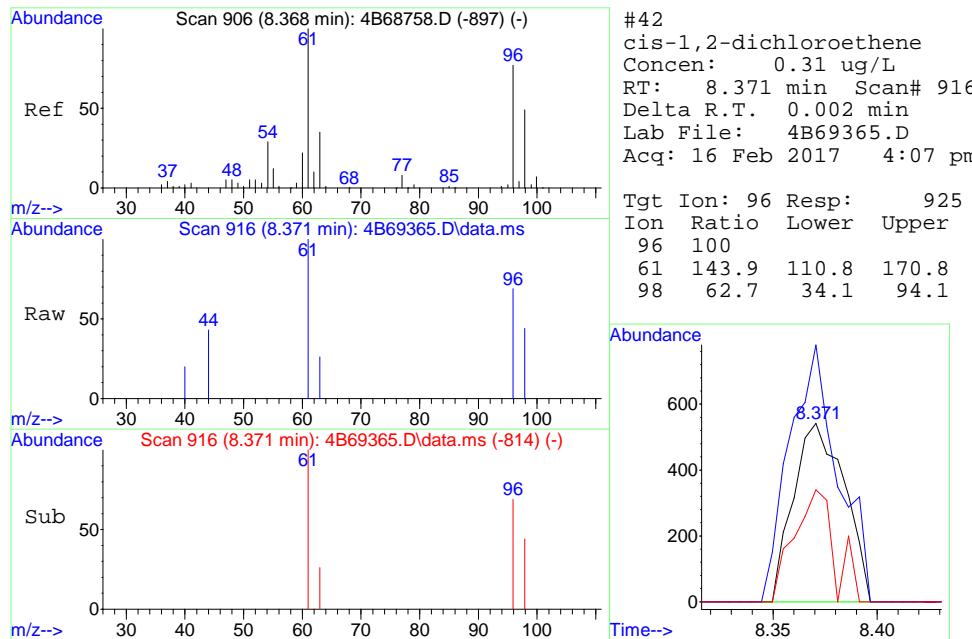
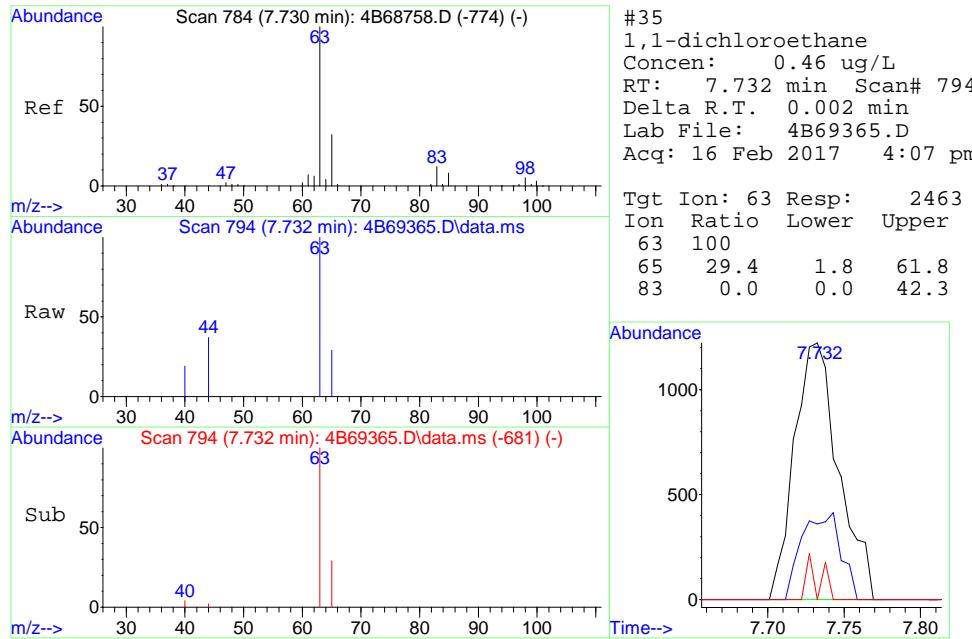
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	151550	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	283702	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	394173	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	373224	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	205681	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	283702	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	127182	53.08	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	106.16%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	149150	57.47	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	114.94%		
80) toluene-d8 (s)	11.310	98	461212	50.66	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	101.32%		
105) 4-bromofluorobenzene (s)	14.181	95	176996	52.55	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	105.10%		
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.732	63	2463	0.46	ug/L	88
42) cis-1,2-dichloroethene	8.371	96	925	0.31	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	2233	0.60	ug/L	97

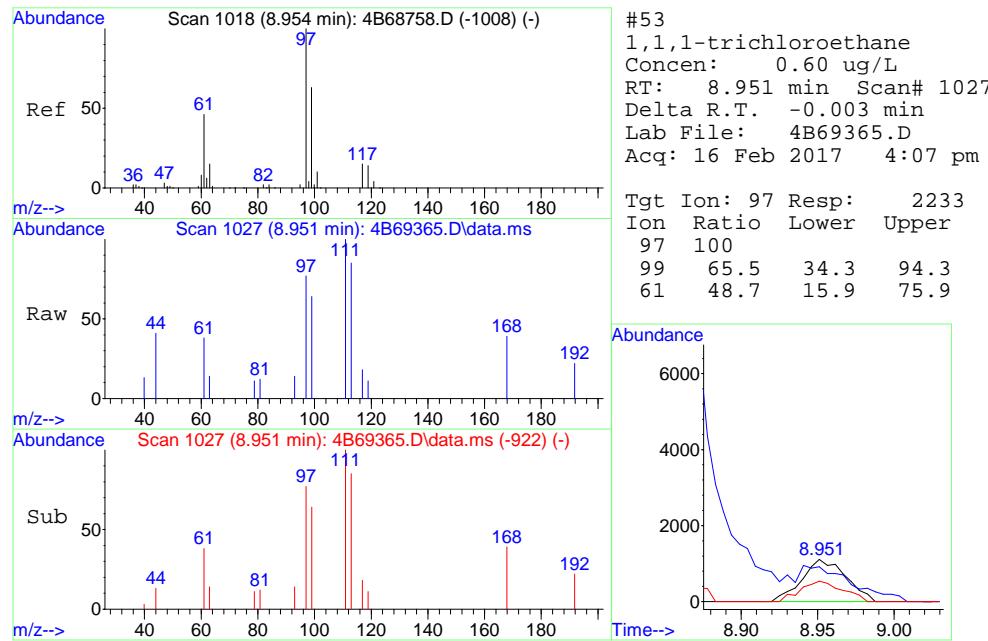
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69365.D
 Acq On : 16 Feb 2017 4:07 pm
 Operator : Hueanh
 Sample : jc37020-14
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 17 12:24:17 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







7.1.14

7

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69358.D
 Acq On : 16 Feb 2017 12:45 pm
 Operator : Hueanht
 Sample : jc37020-15
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 8 Sample Multiplier: 1

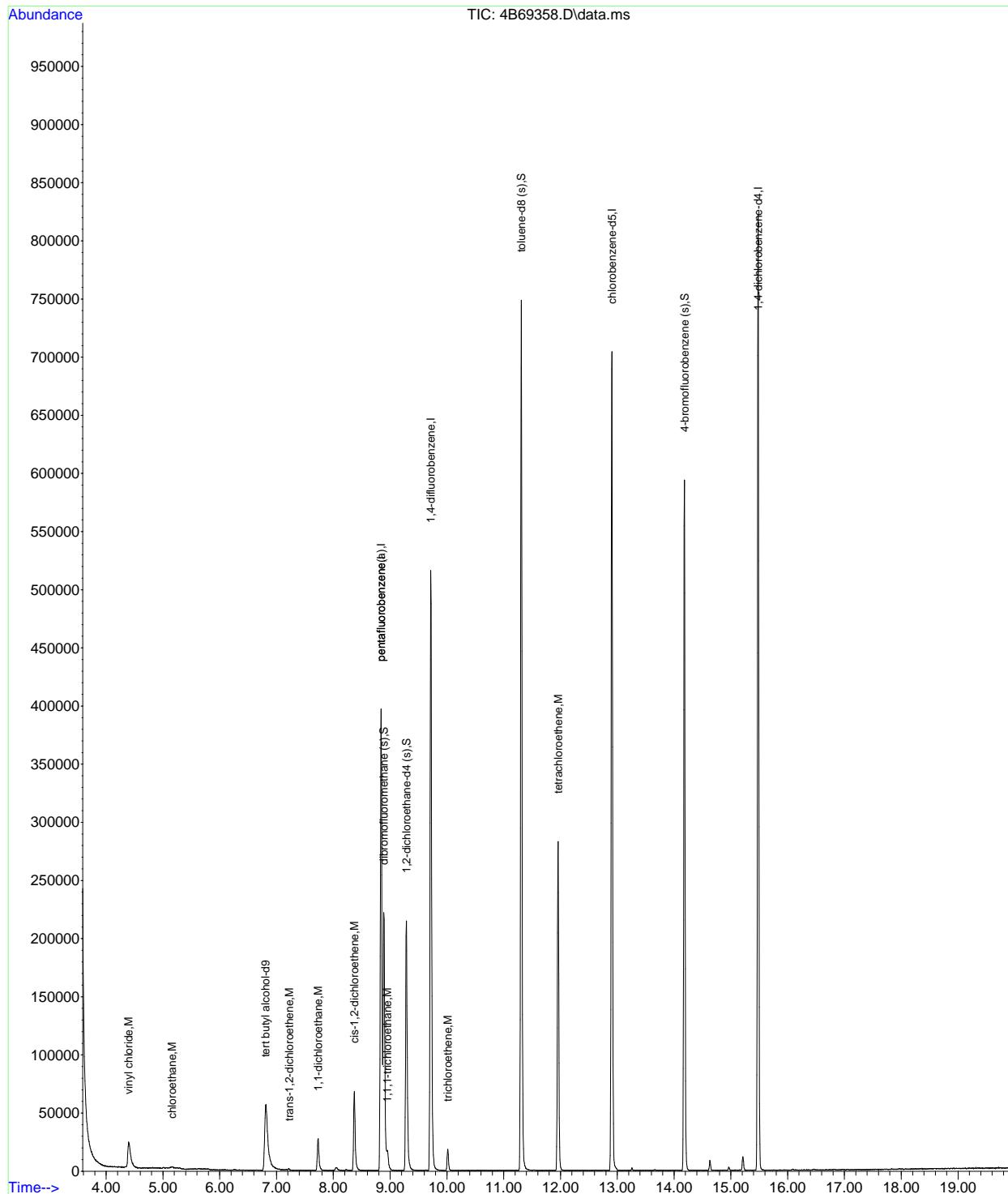
Quant Time: Feb 17 12:10:12 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

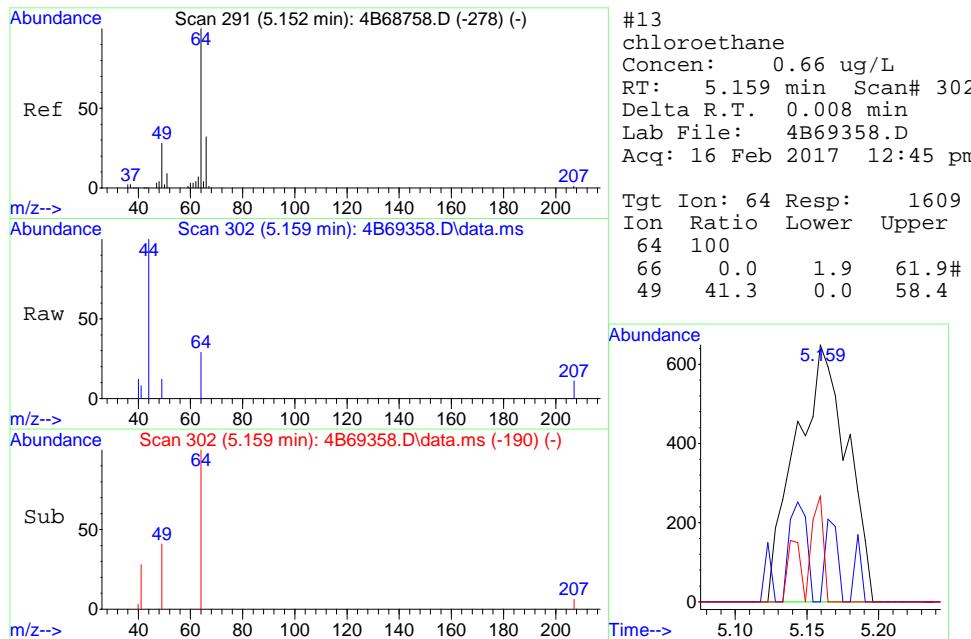
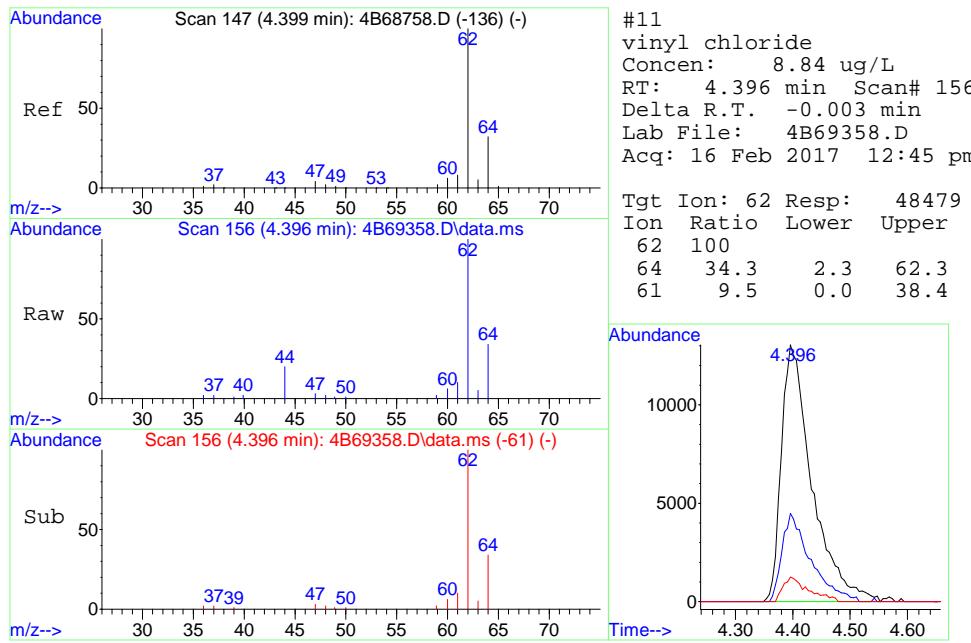
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	133577	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	299739	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	413850	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	387485	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	217598	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	299739	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	131273	51.86	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	103.72%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	150352	54.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	109.68%		
80) toluene-d8 (s)	11.310	98	481240	50.35	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.70%		
105) 4-bromofluorobenzene (s)	14.182	95	185654	52.10	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	104.20%		
Target Compounds						
11) vinyl chloride	4.396	62	48479	8.84	ug/L	96
13) chloroethane	5.159	64	1609	0.66	ug/L	# 58
32) trans-1,2-dichloroethene	7.220	96	580	0.21	ug/L	# 80
35) 1,1-dichloroethane	7.733	63	30712	5.44	ug/L	100
42) cis-1,2-dichloroethene	8.371	96	30734	9.84	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	9713	2.46	ug/L	94
69) trichloroethene	10.013	95	6348	2.14	ug/L	94
89) tetrachloroethene	11.959	164	69033	21.66	ug/L	98

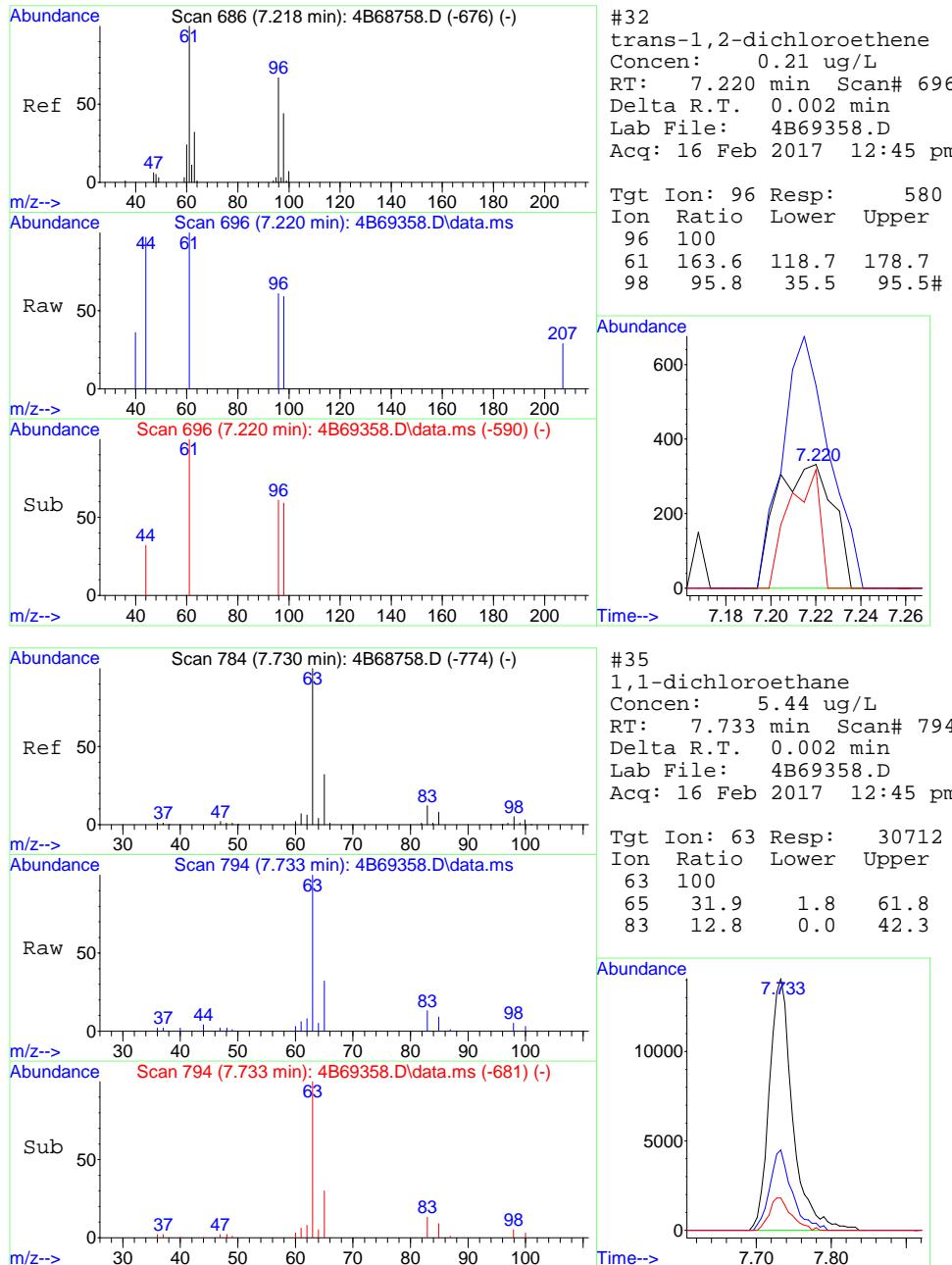
(#) = qualifier out of range (m) = manual integration (+) = signals summed

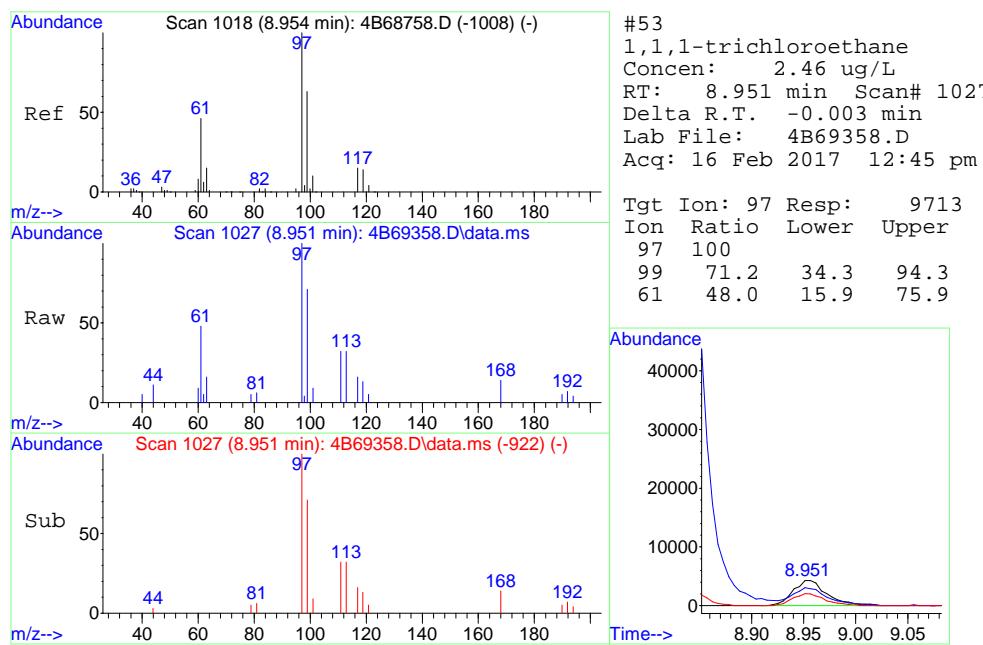
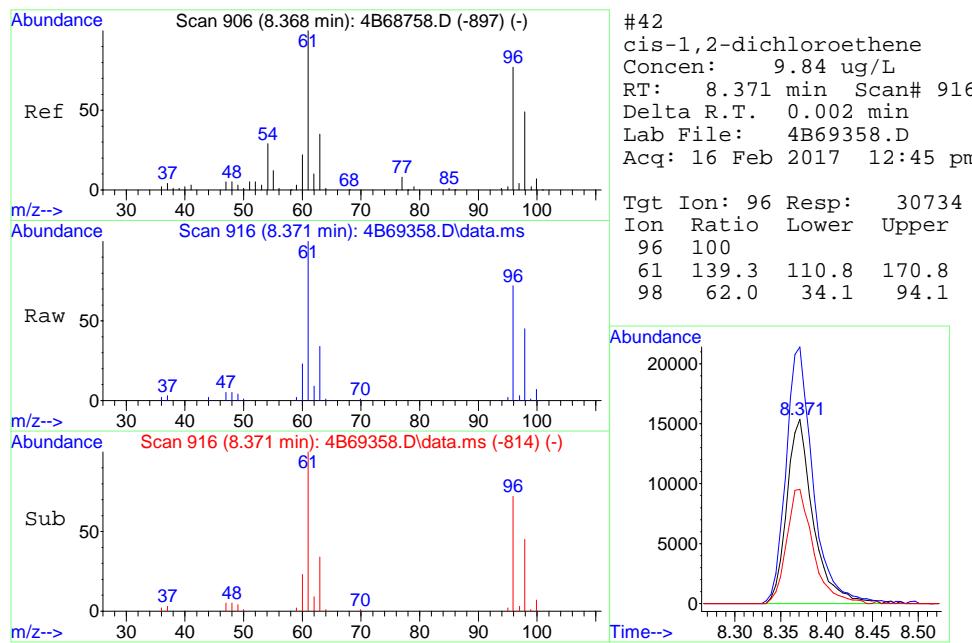
Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69358.D
 Acq On : 16 Feb 2017 12:45 pm
 Operator : Hueanh
 Sample : jc37020-15
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 8 Sample Multiplier: 1

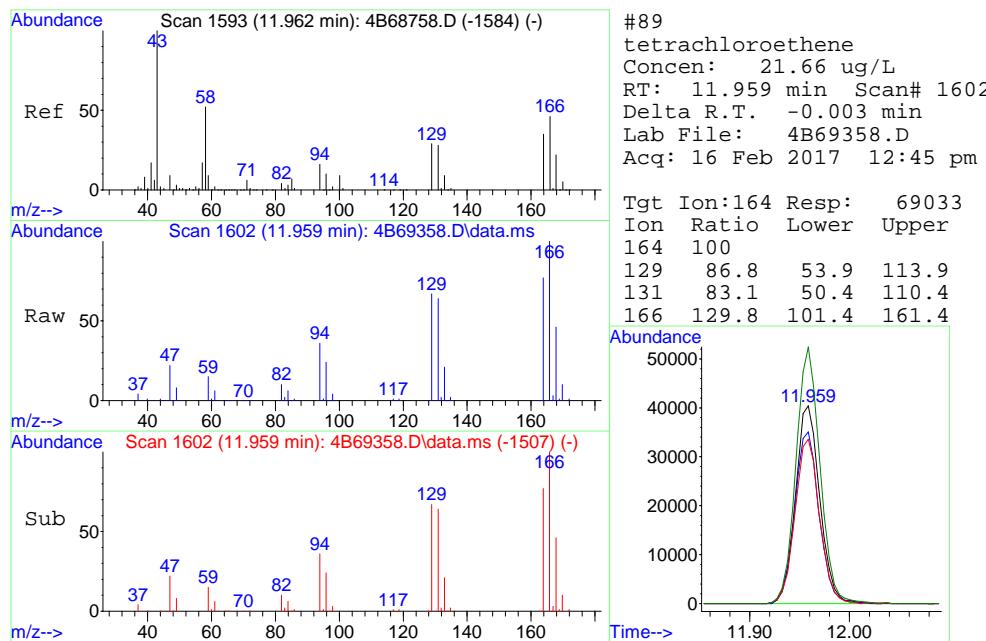
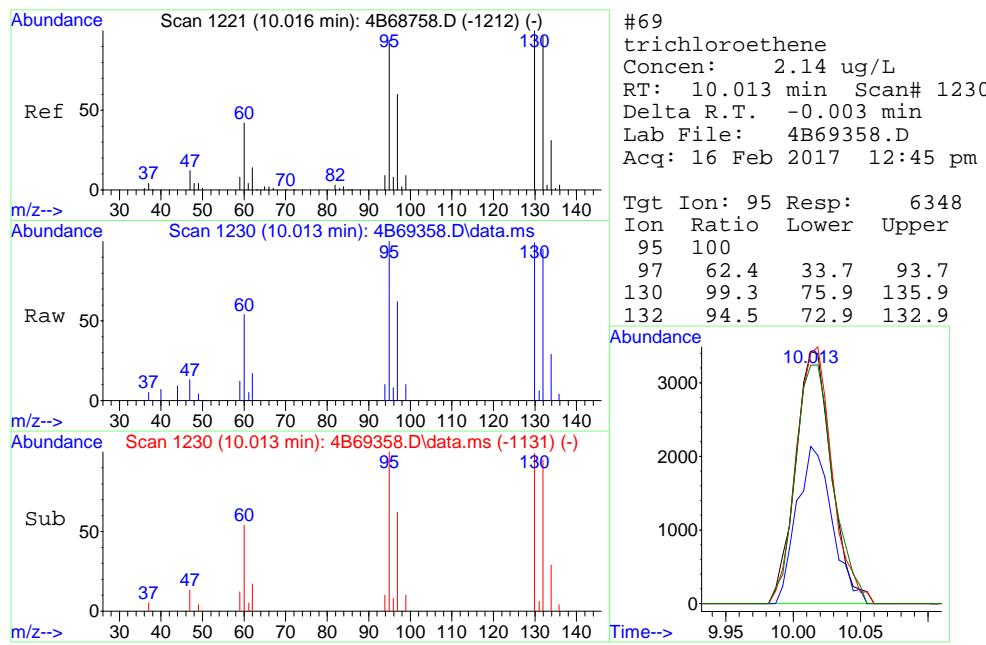
Quant Time: Feb 17 12:10:12 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration











Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69357.D
 Acq On : 16 Feb 2017 12:17 pm
 Operator : Hueanht
 Sample : jc37020-16
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 7 Sample Multiplier: 1

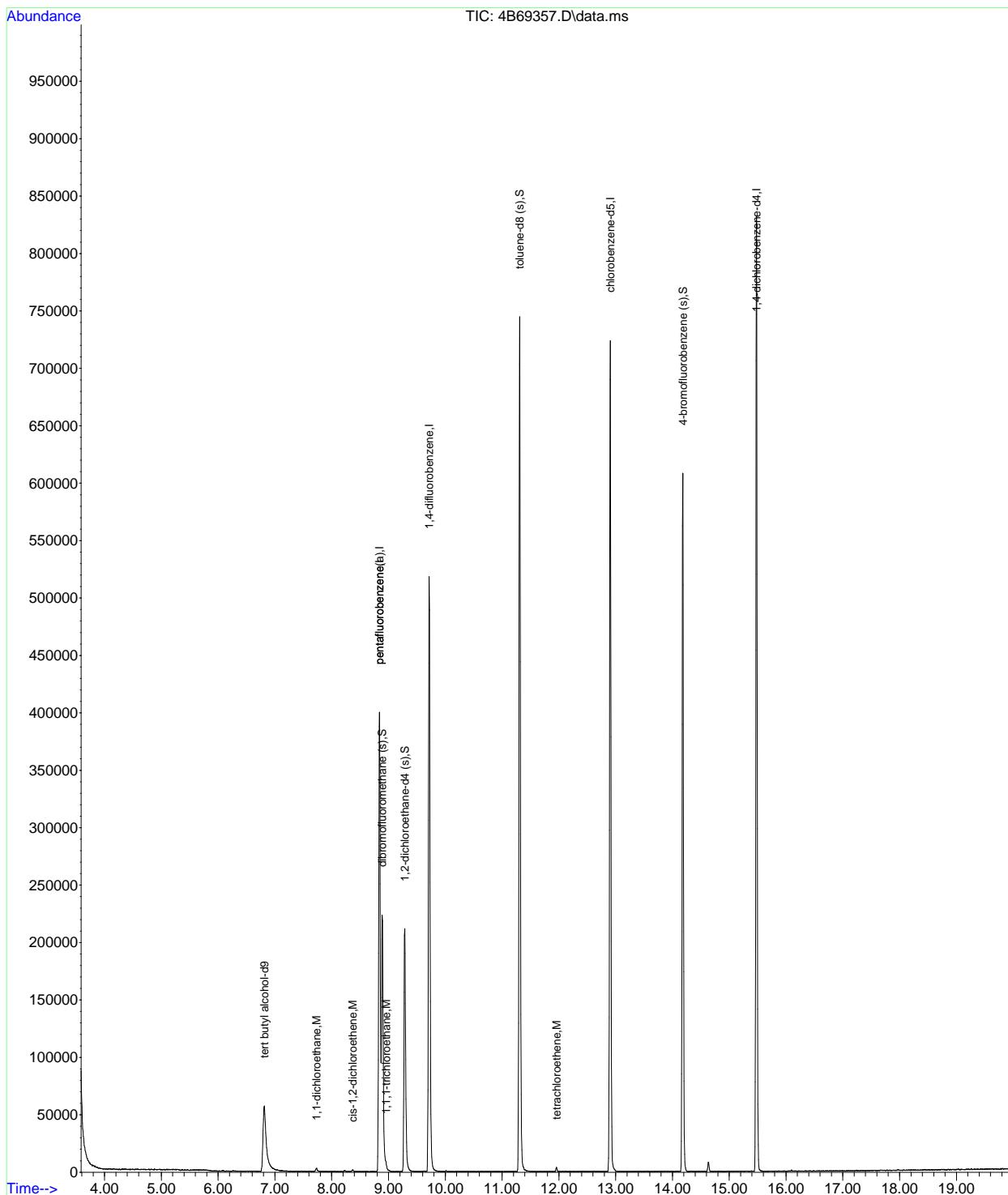
Quant Time: Feb 17 12:09:01 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

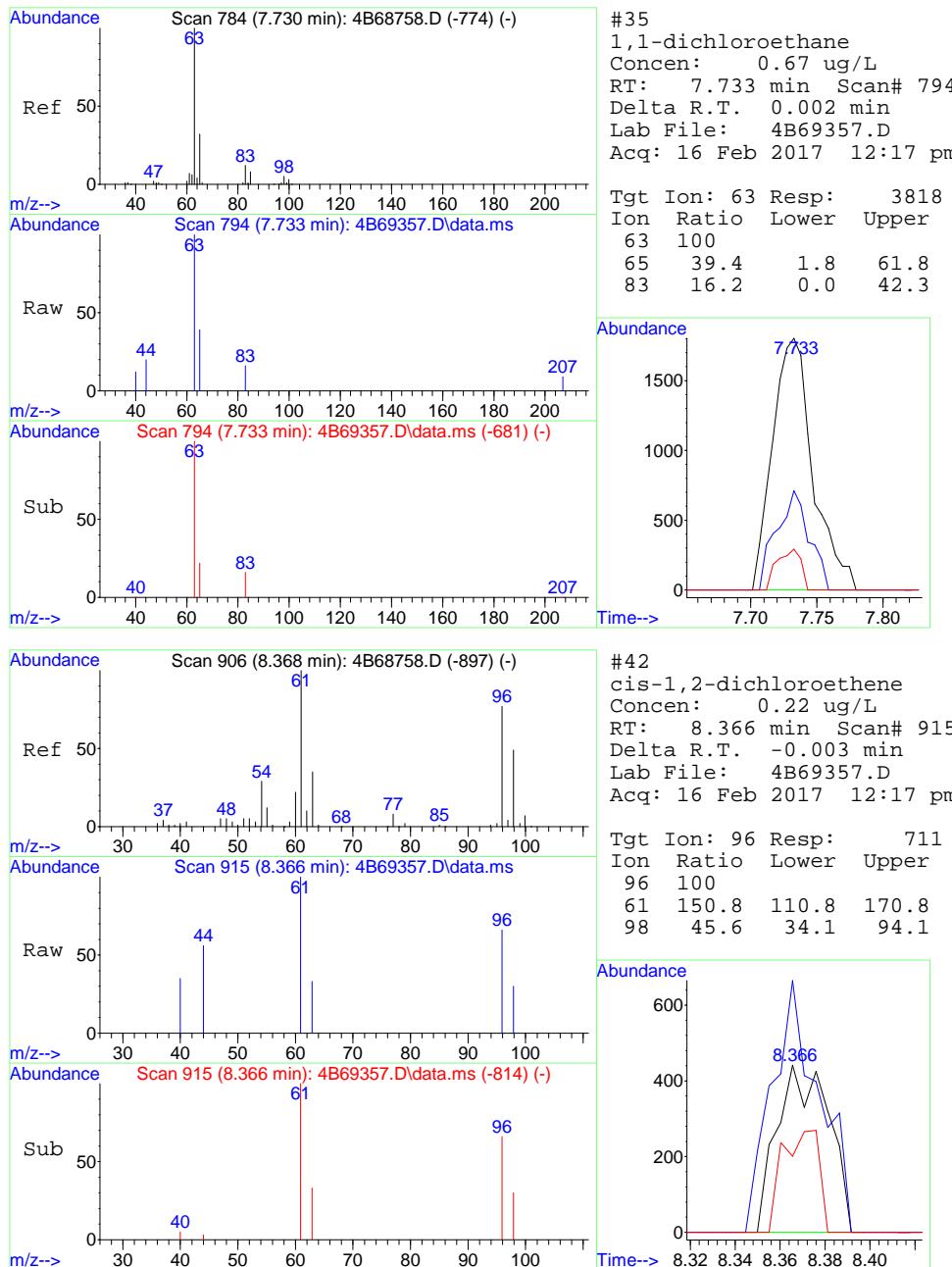
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	137123	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	304465	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	419229	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	397415	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	219310	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	304465	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	134392	52.27	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	104.54%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	152321	54.69	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	109.38%	
80) toluene-d8 (s)	11.310	98	481004	49.68	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	99.36%	
105) 4-bromofluorobenzene (s)	14.182	95	187098	52.10	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.20%	
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.733	63	3818	0.67	ug/L	87
42) cis-1,2-dichloroethene	8.366	96	711	0.22	ug/L	87
53) 1,1,1-trichloroethane	8.957	97	2871	0.72	ug/L	84
89) tetrachloroethene	11.959	164	1003	0.31	ug/L	84

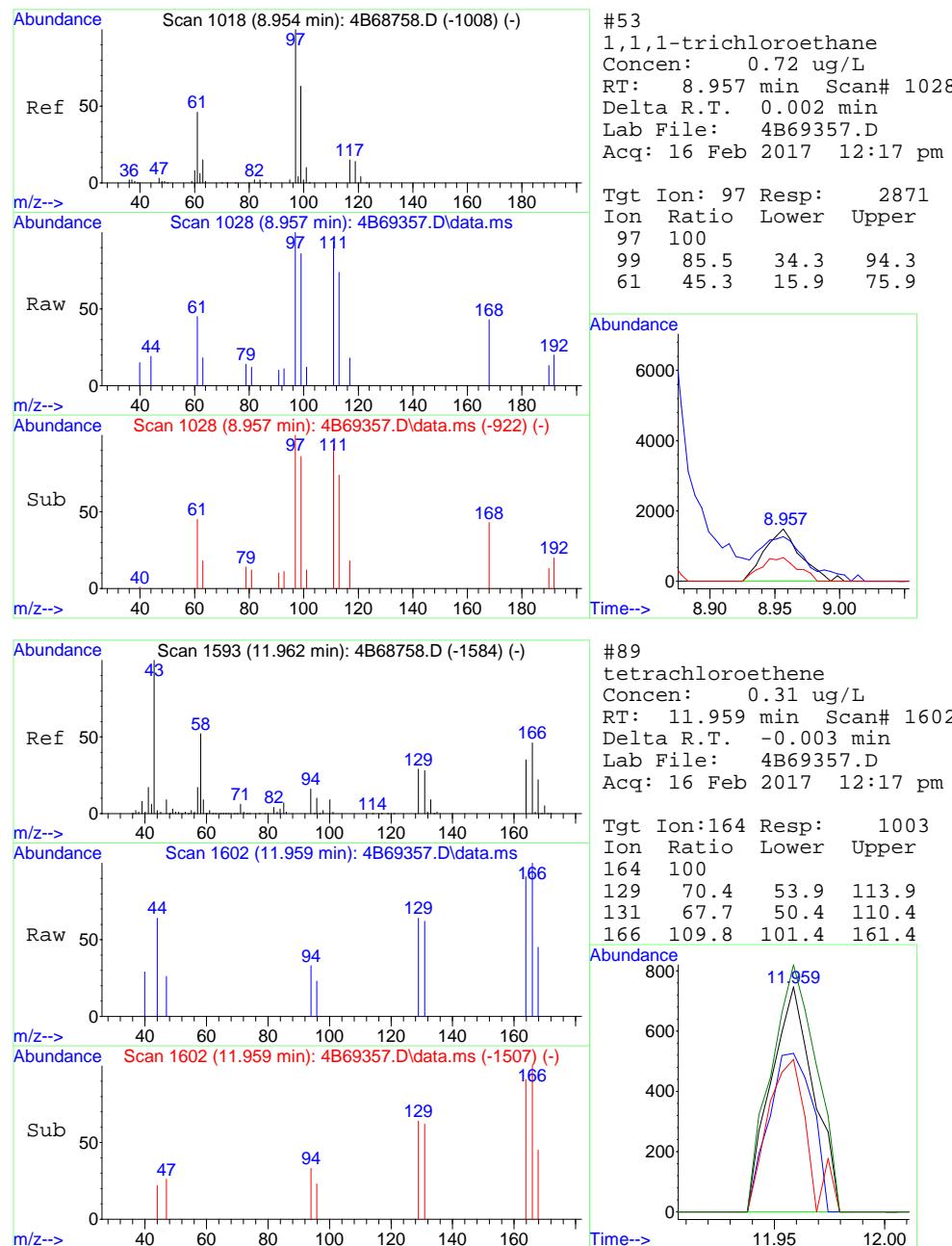
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69357.D
 Acq On : 16 Feb 2017 12:17 pm
 Operator : Hueanh
 Sample : jc37020-16
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 17 12:09:01 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration







Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69359.D
 Acq On : 16 Feb 2017 1:13 pm
 Operator : Hueanht
 Sample : jc37020-17
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 9 Sample Multiplier: 1

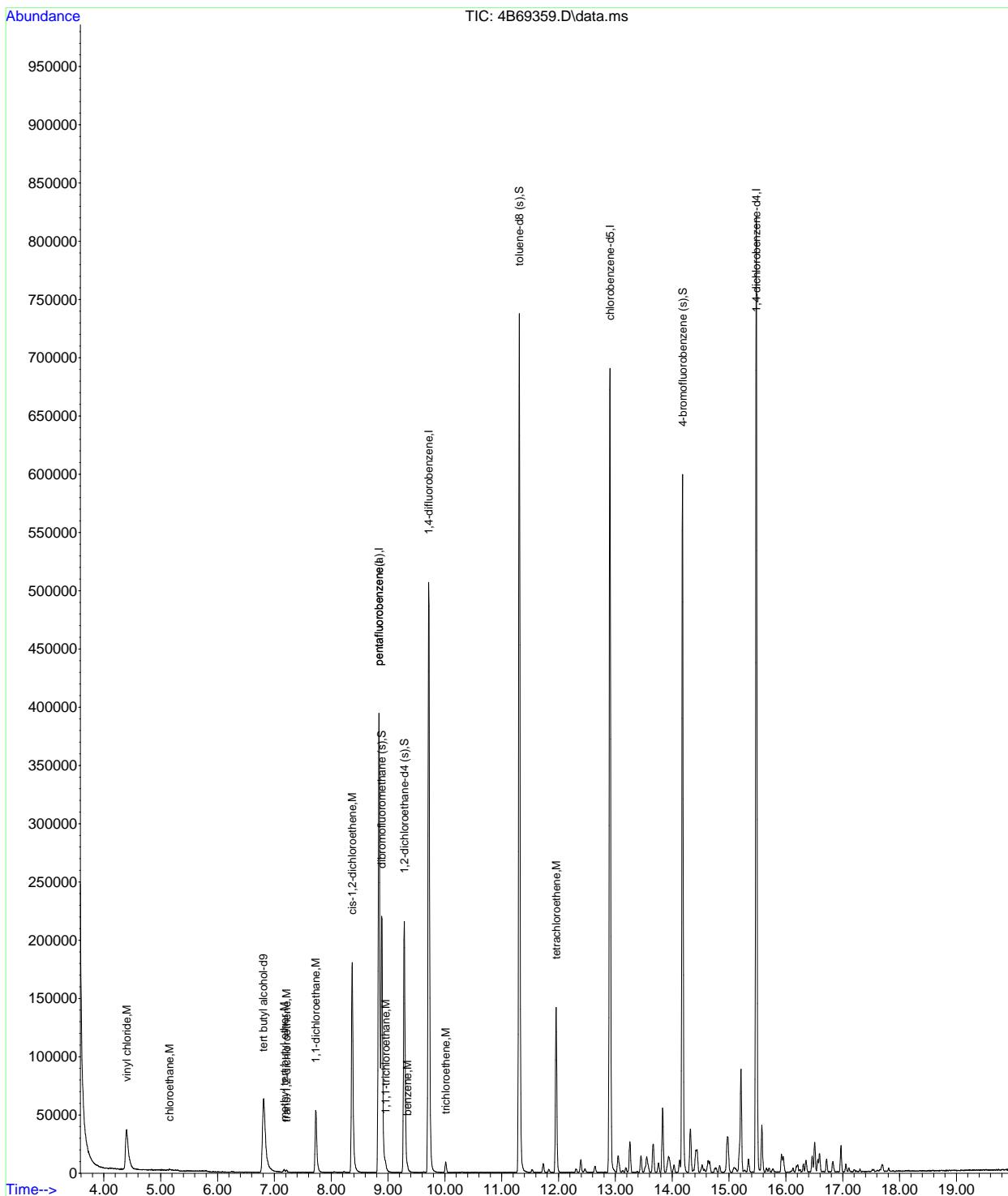
Quant Time: Feb 17 12:11:51 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

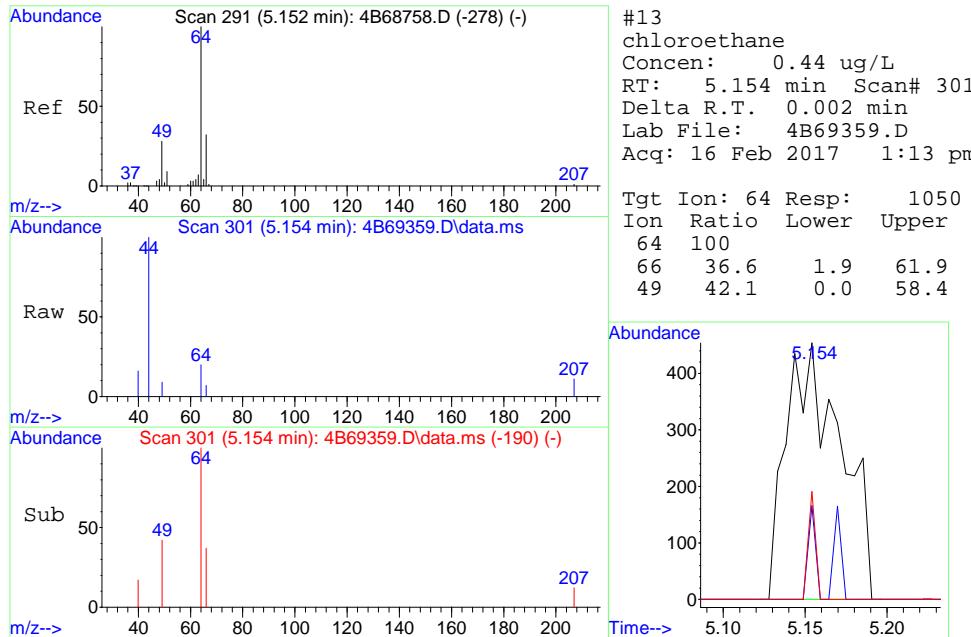
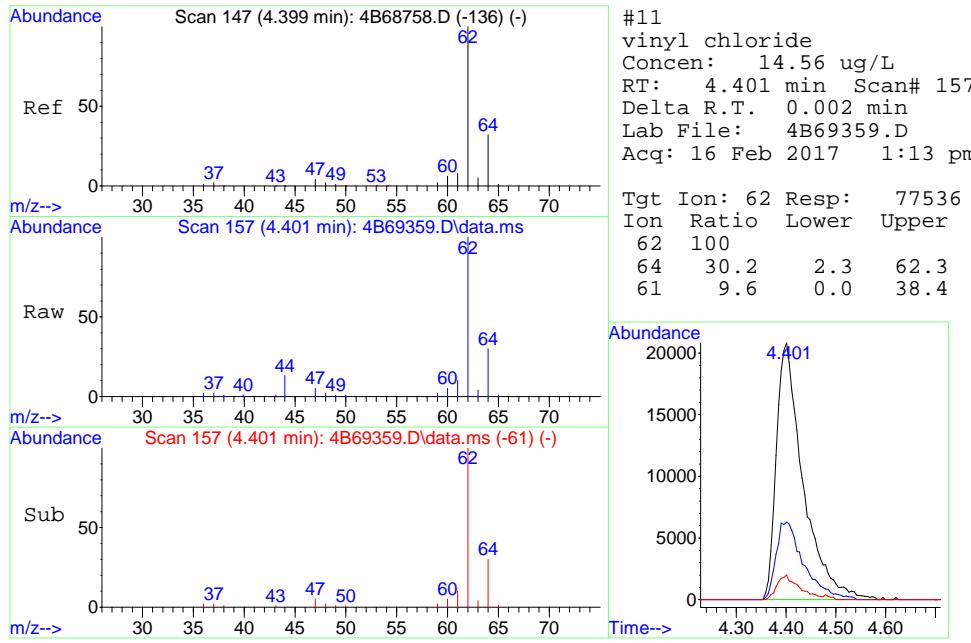
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	138582	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	291119	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	408824	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	383454	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	216445	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	291119	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	129481	52.67	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.34%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	149691	56.21	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 112.42%			
80) toluene-d8 (s)	11.310	98	473963	50.20	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.40%			
105) 4-bromofluorobenzene (s)	14.181	95	183833	51.87	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.74%			
Target Compounds						
				Qvalue		
11) vinyl chloride	4.401	62	77536	14.56	ug/L	96
13) chloroethane	5.154	64	1050	0.44	ug/L	83
31) methyl tert butyl ether	7.173	73	2440	0.29	ug/L	97
32) trans-1,2-dichloroethene	7.215	96	807	0.30	ug/L	89
35) 1,1-dichloroethane	7.727	63	59628	10.88	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	82810	27.30	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	4226	1.10	ug/L	95
63) benzene	9.338	78	1651	0.14	ug/L	99
69) trichloroethene	10.013	95	3048	1.04	ug/L	88
89) tetrachloroethene	11.959	164	34021	10.79	ug/L	95

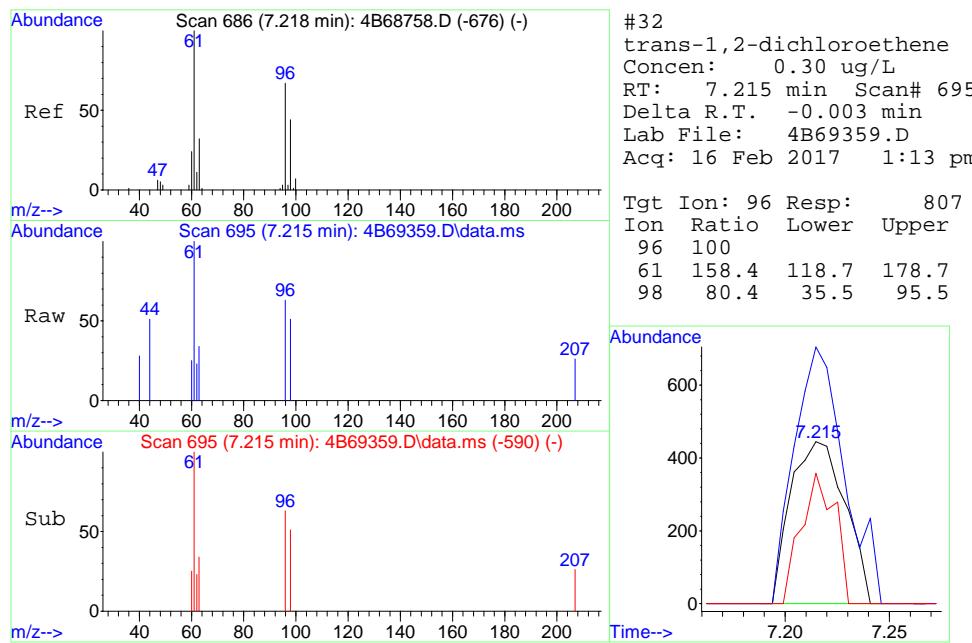
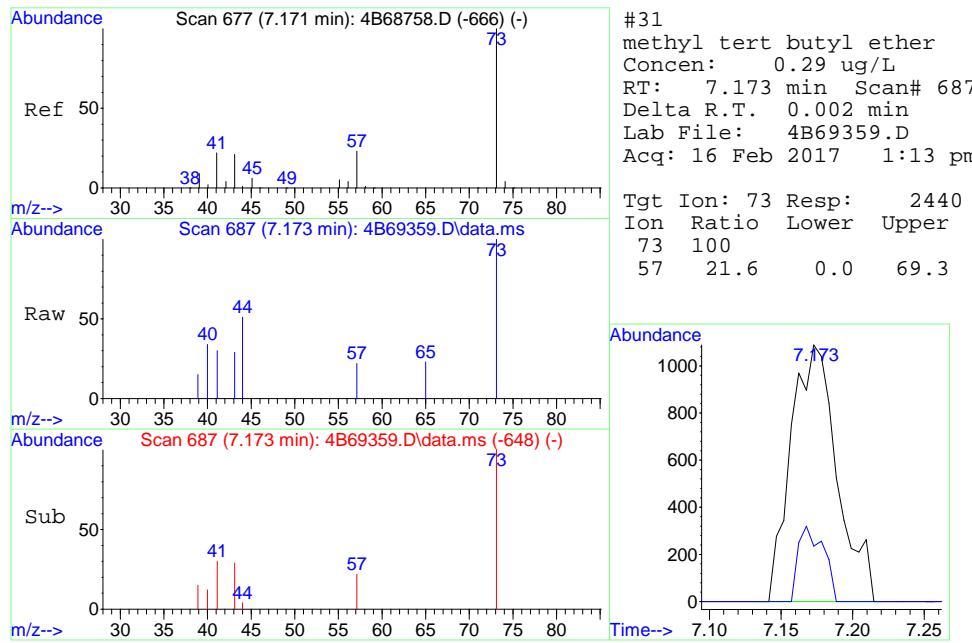
(#) = qualifier out of range (m) = manual integration (+) = signals summed

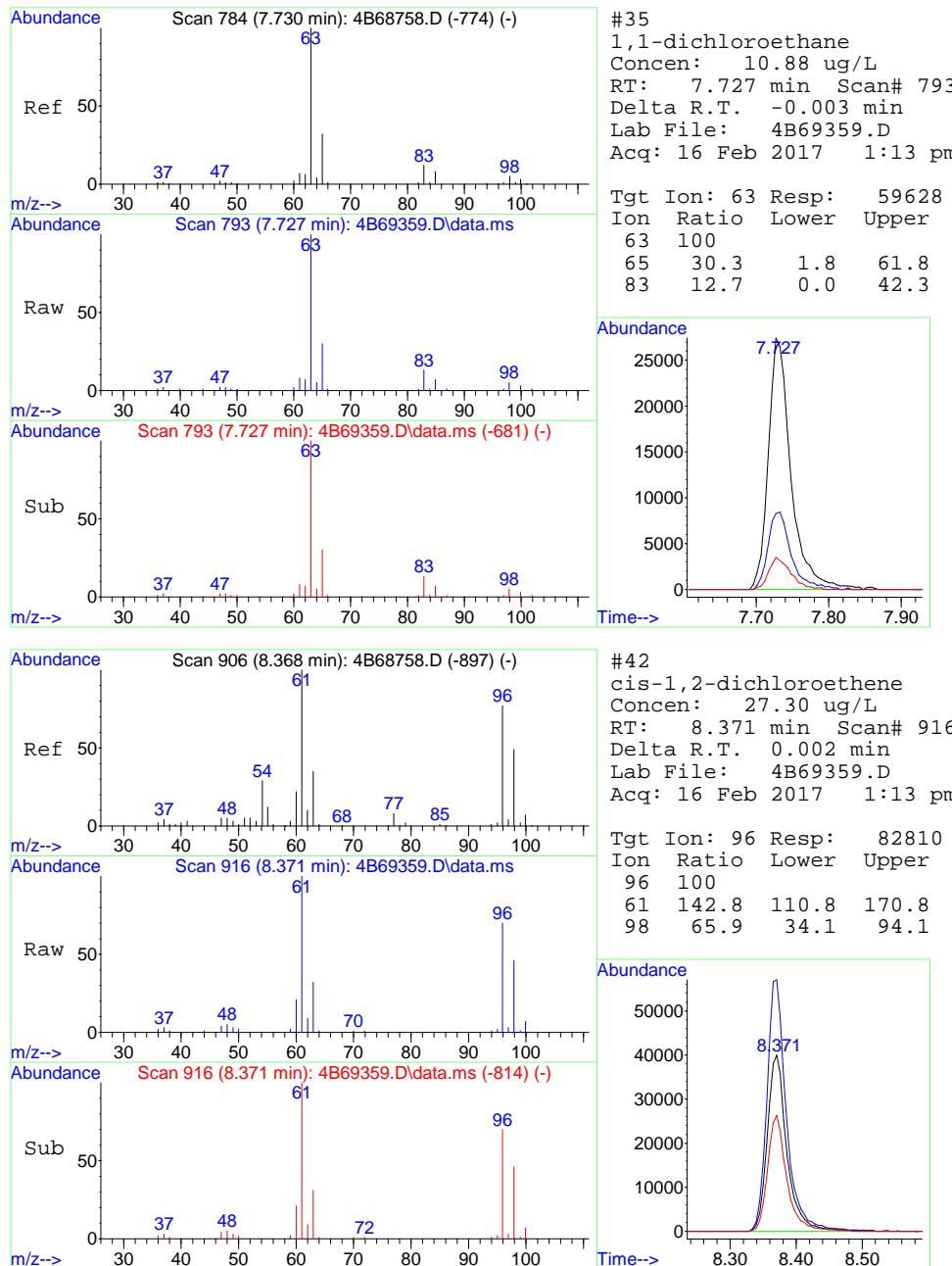
Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69359.D
 Acq On : 16 Feb 2017 1:13 pm
 Operator : Hueanh
 Sample : jc37020-17
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 9 Sample Multiplier: 1

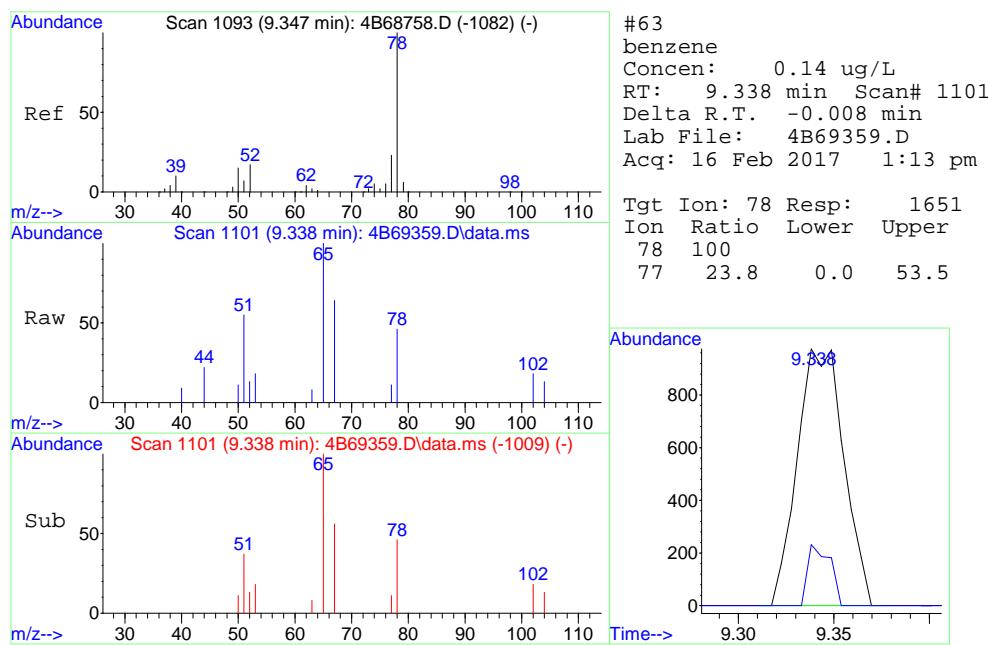
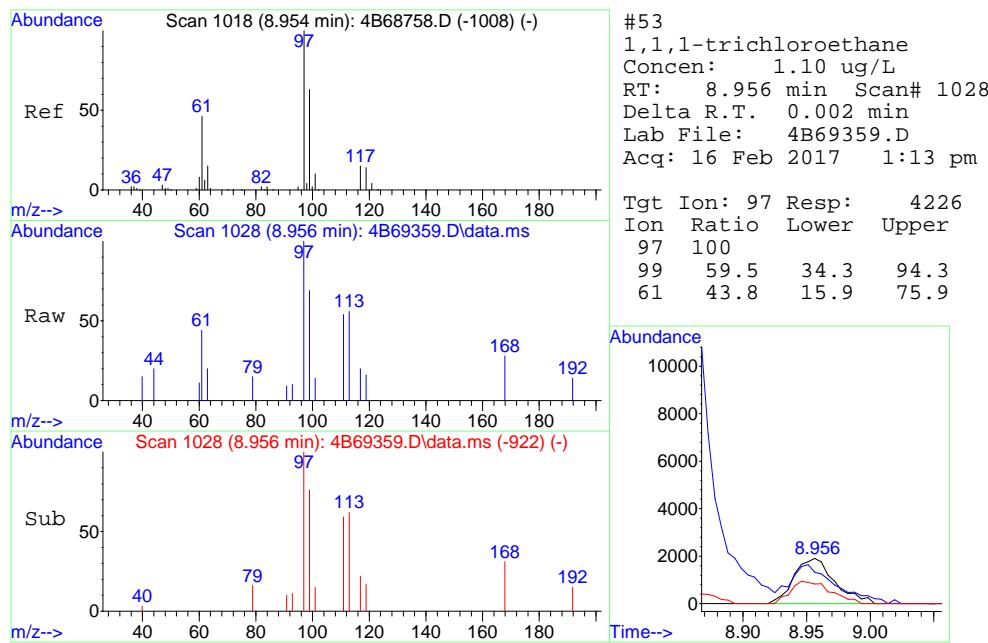
Quant Time: Feb 17 12:11:51 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

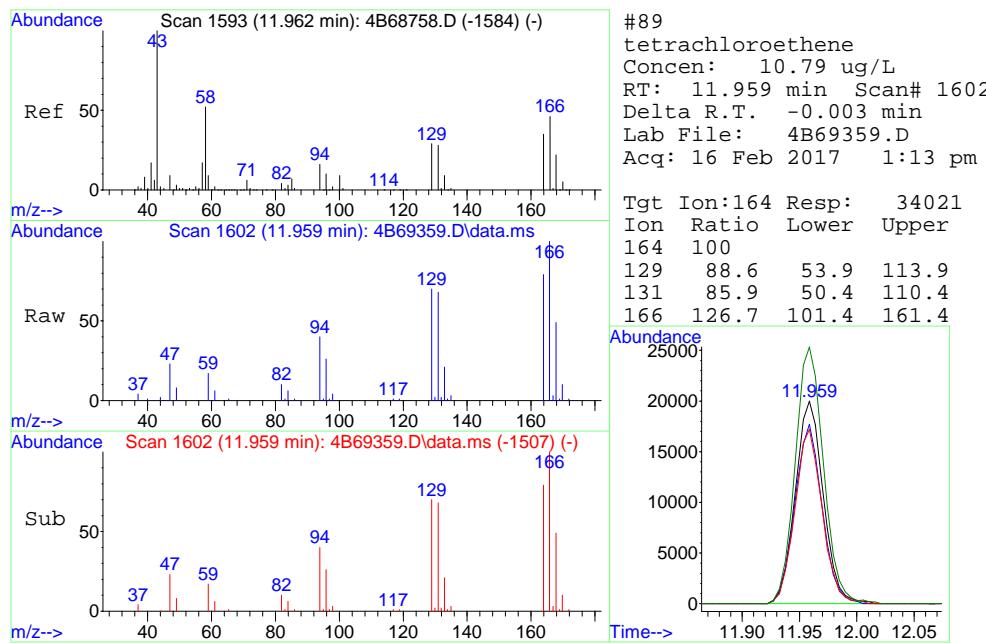
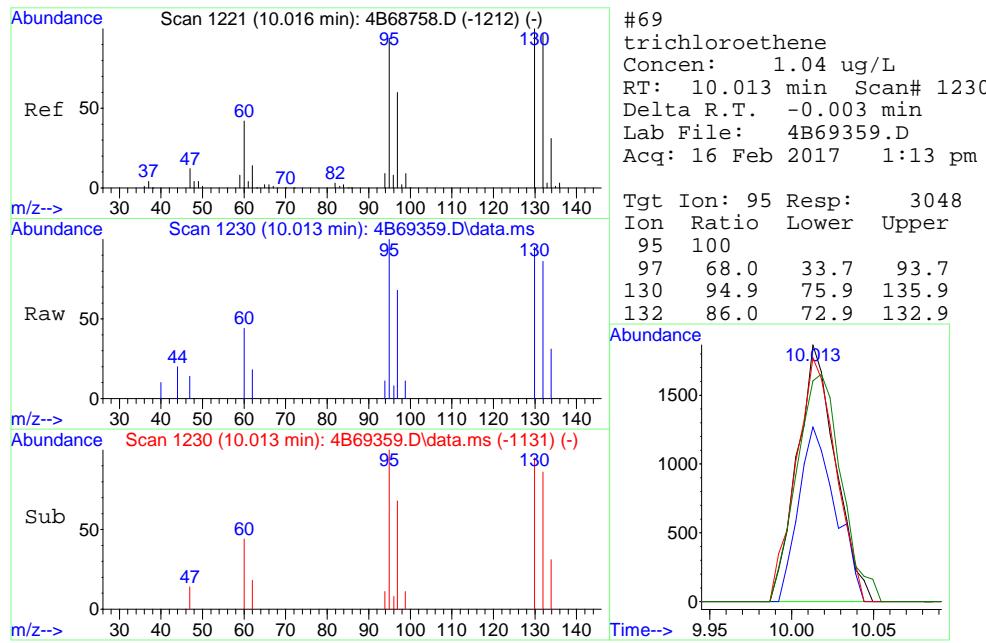












Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69364.D
 Acq On : 16 Feb 2017 3:36 pm
 Operator : Hueanht
 Sample : jc37020-18
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 14 Sample Multiplier: 1

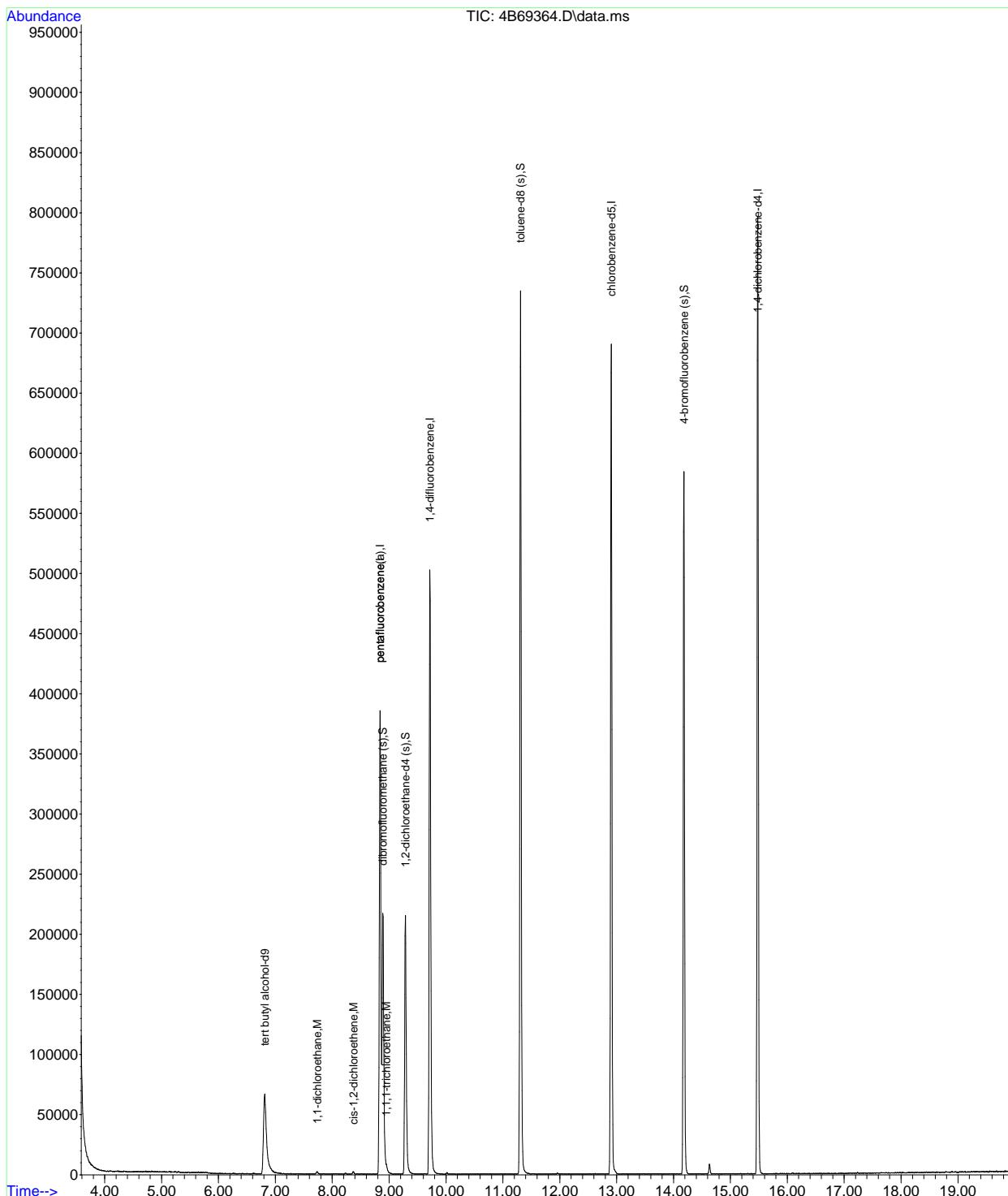
Quant Time: Feb 17 12:23:41 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	140822	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	289130	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	403851	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	379704	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	209924	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	289130	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	130631	53.50	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	107.00%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	149615	56.57	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	113.14%	
80) toluene-d8 (s)	11.310	98	470762	50.47	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.94%	
105) 4-bromofluorobenzene (s)	14.182	95	180001	52.36	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	104.72%	
Target Compounds						
				Qvalue		
35) 1,1-dichloroethane	7.738	63	2691	0.49	ug/L	96
42) cis-1,2-dichloroethene	8.376	96	995	0.33	ug/L	# 64
53) 1,1,1-trichloroethane	8.951	97	2423	0.64	ug/L	94

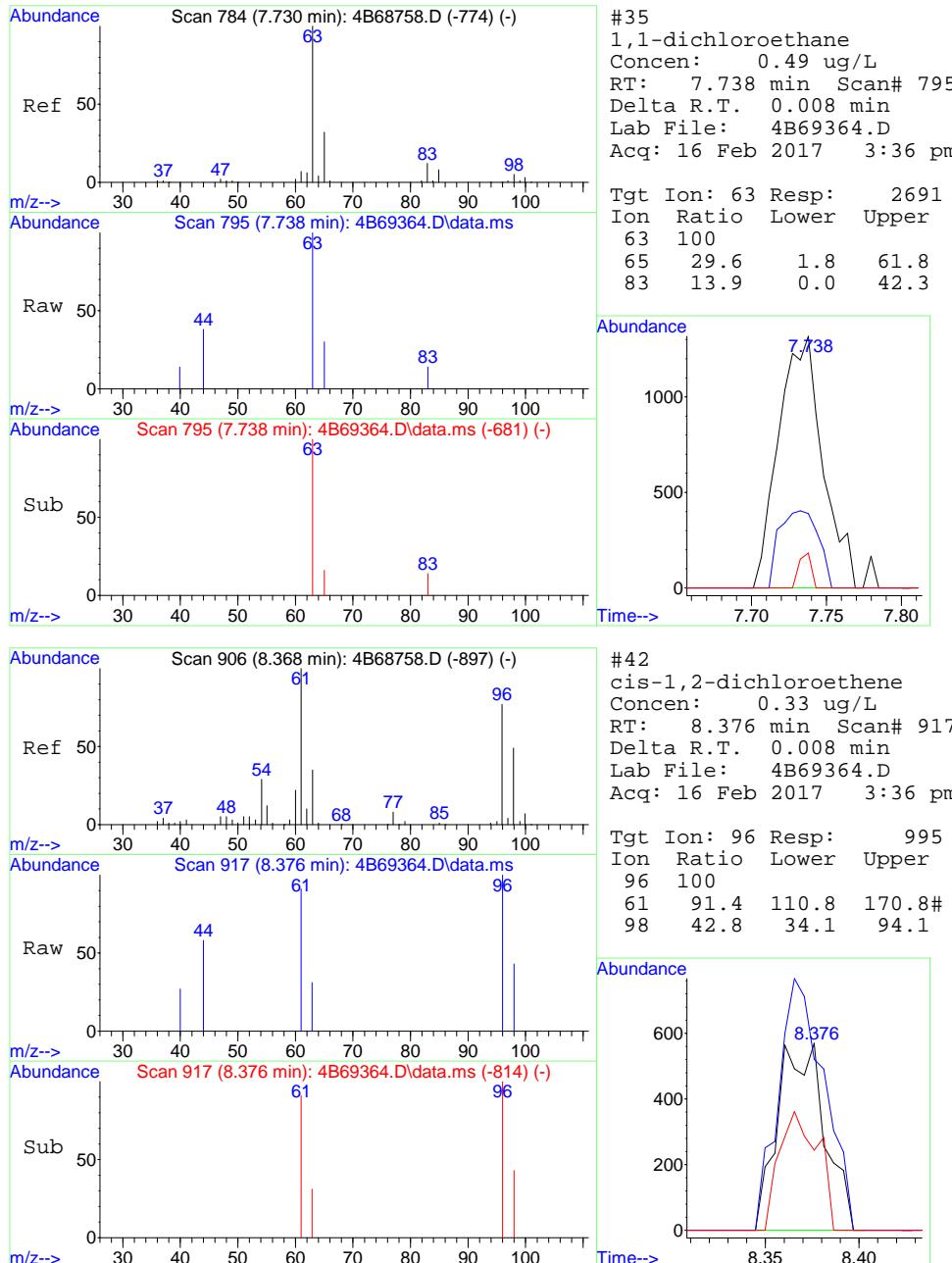
(#) = qualifier out of range (m) = manual integration (+) = signals summed

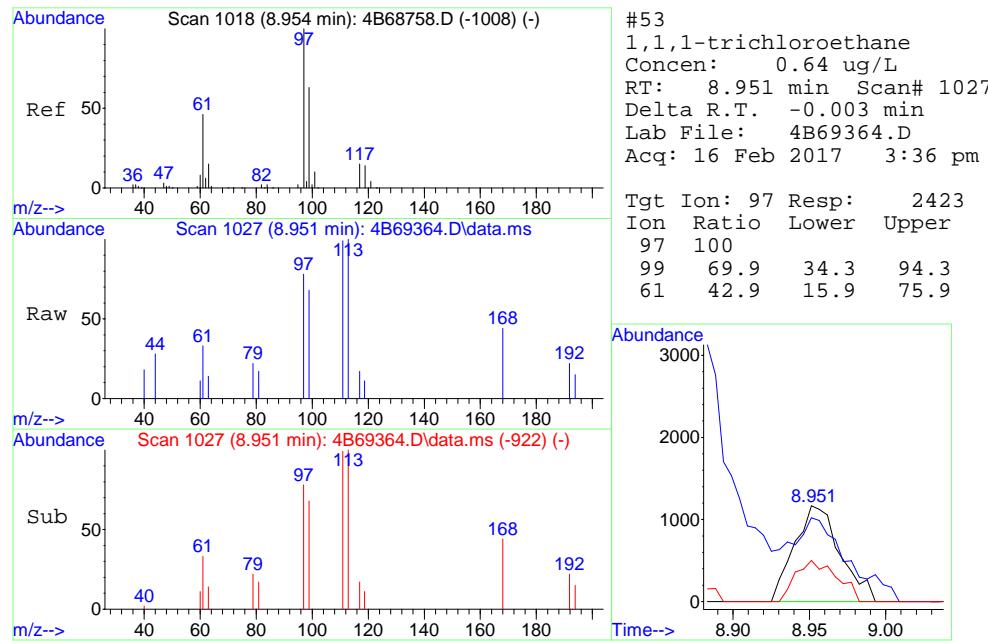
Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69364.D
 Acq On : 16 Feb 2017 3:36 pm
 Operator : Hueanh
 Sample : jc37020-18
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 17 12:23:41 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Sample Results: 4B69364.D





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69379.D
 Acq On : 16 Feb 2017 10:44 pm
 Operator : Hueanht
 Sample : jc37020-19
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 17 12:34:35 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

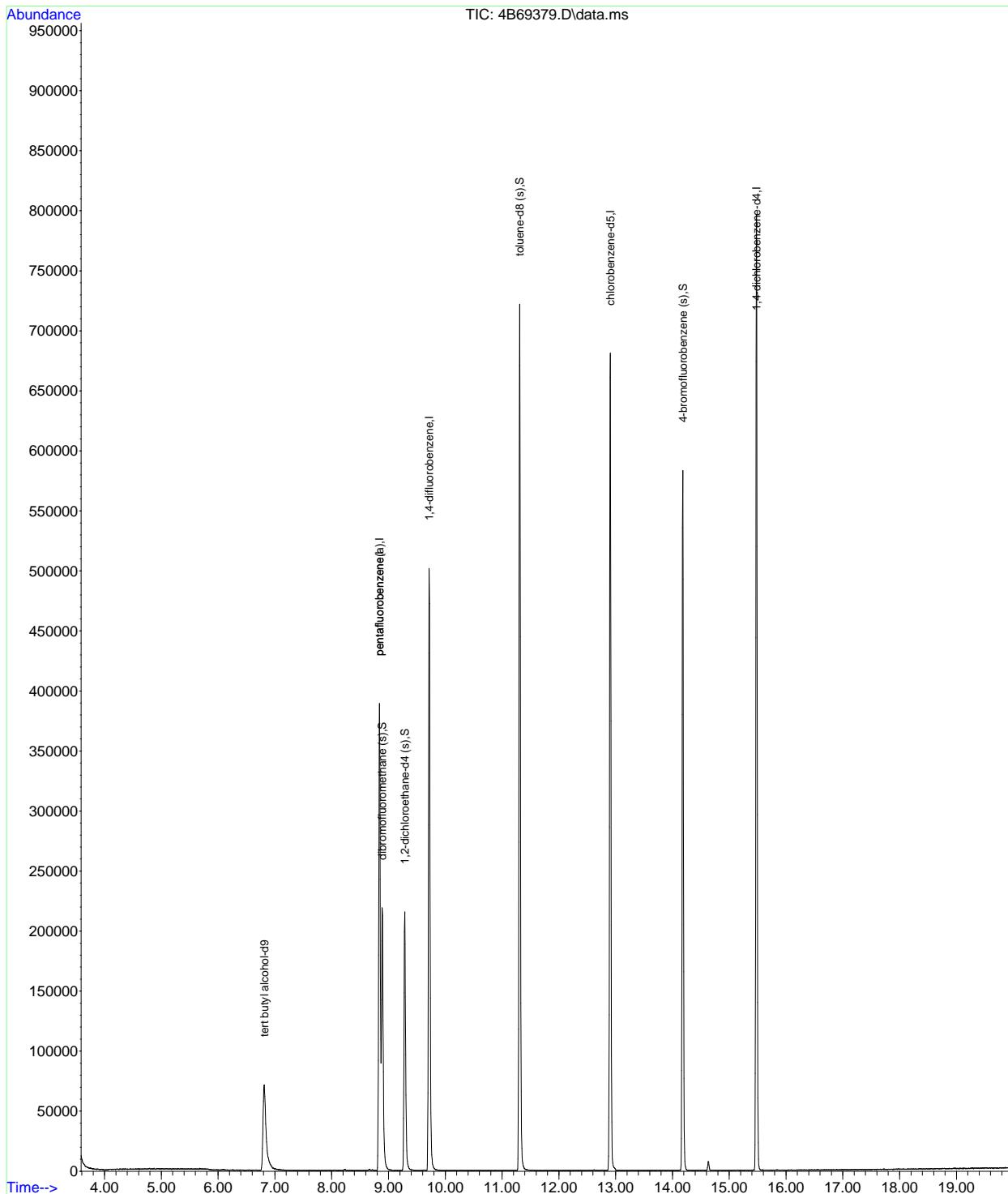
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	155907	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	291305	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	401821	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	378583	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	213251	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	291305	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	129568	52.67	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	105.34%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	148242	55.63	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	111.26%	
80) toluene-d8 (s)	11.310	98	468863	50.52	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.04%	
105) 4-bromofluorobenzene (s)	14.182	95	178566	51.14	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	102.28%	

Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69379.D
 Acq On : 16 Feb 2017 10:44 pm
 Operator : Hueanh
 Sample : jc37020-19
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 29 Sample Multiplier: 1

Quant Time: Feb 17 12:34:35 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69353.D
 Acq On : 16 Feb 2017 10:16 am
 Operator : Hueanht
 Sample : mb
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 17 12:03:43 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	131576	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	297318	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	408799	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	385674	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215888	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	297318	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	129387	51.53	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	103.06%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147614	54.28	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	108.56%		
80) toluene-d8 (s)	11.310	98	476174	50.43	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.86%		
105) 4-bromofluorobenzene (s)	14.182	95	182956	51.75	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	103.50%		

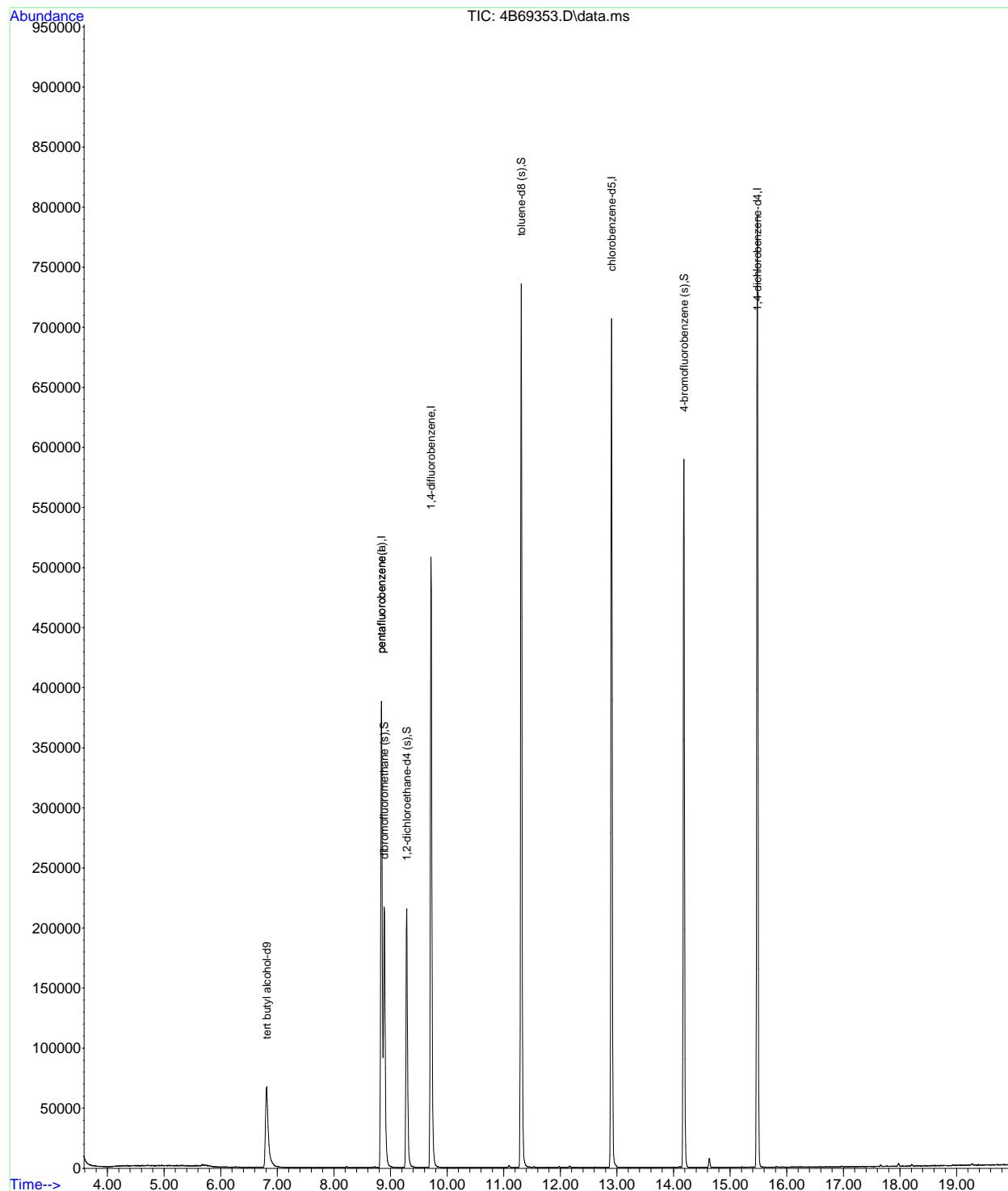
Target Compounds	Qvalue
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69353.D
 Acq On : 16 Feb 2017 10:16 am
 Operator : Hueanh
 Sample : mb
 Misc : MS12524,V4B2855,5,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 17 12:03:43 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69376.D
 Acq On : 16 Feb 2017 9:19 pm
 Operator : Hueanh
 Sample : mb2
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Feb 17 12:32:45 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	151542	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	301772	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	411532	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	391025	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	222857	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	301772	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	131542	51.62	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	103.24%	
50) 1,2-dichloroethane-d4 (s)	9.286	65	147952	53.60	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	107.20%	
80) toluene-d8 (s)	11.310	98	481292	50.64	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	101.28%	
105) 4-bromofluorobenzene (s)	14.182	95	184674	50.61	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	101.22%	

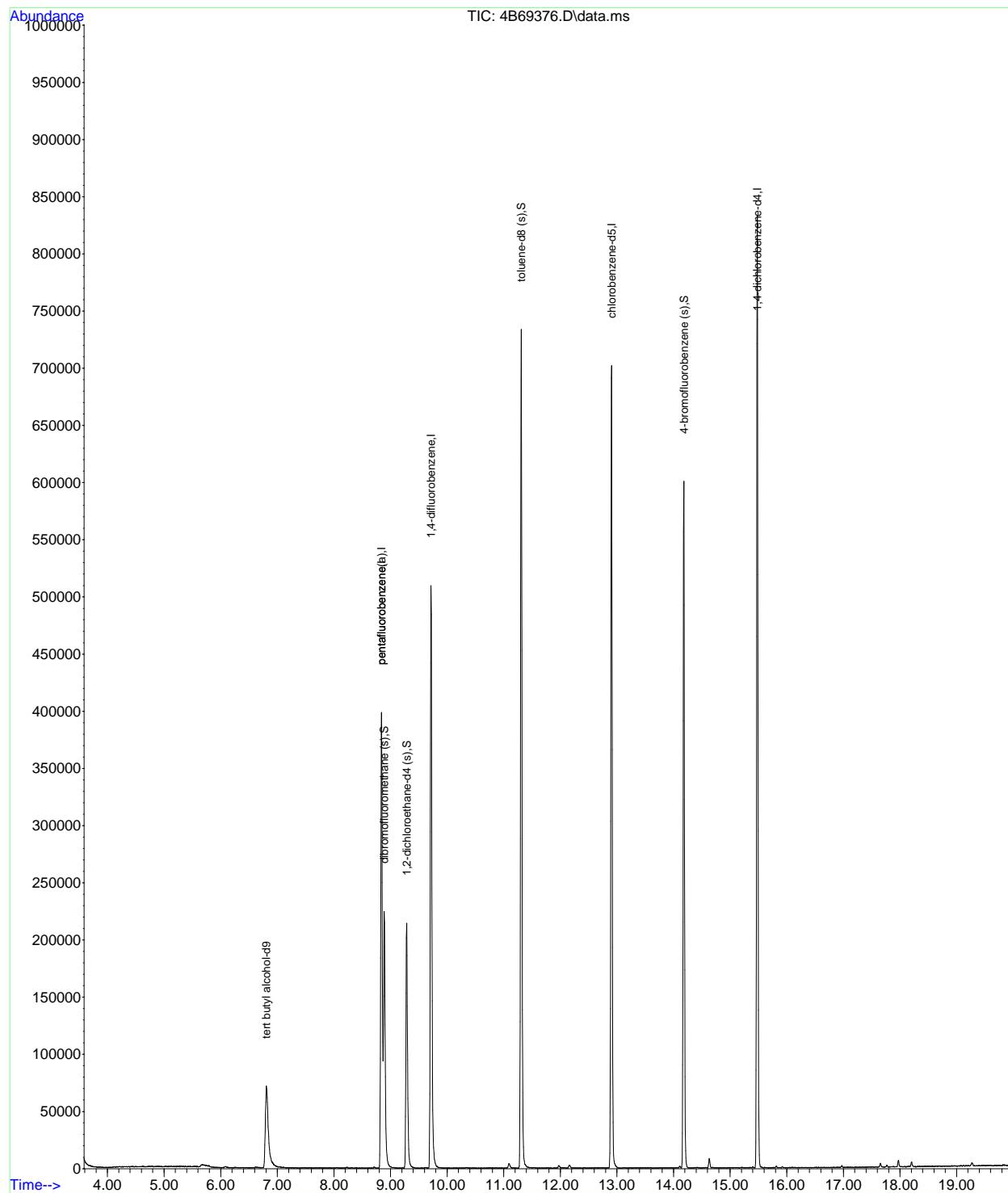
Target Compounds	Qvalue
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69376.D
 Acq On : 16 Feb 2017 9:19 pm
 Operator : Hueanh
 Sample : mb2
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 26 Sample Multiplier: 1

Quant Time: Feb 17 12:32:45 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69387.D
 Acq On : 17 Feb 2017 10:12 am
 Operator : Hueanht
 Sample : mb
 Misc : MS12612,V4B2856,5,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 20 16:55:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	134146	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	287493	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	394022	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	371741	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	210255	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	287493	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.894	113	125895	51.85	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	103.70%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	143187	54.45	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	108.90%		
80) toluene-d8 (s)	11.310	98	458033	50.33	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.66%		
105) 4-bromofluorobenzene (s)	14.182	95	174997	50.83	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	101.66%		

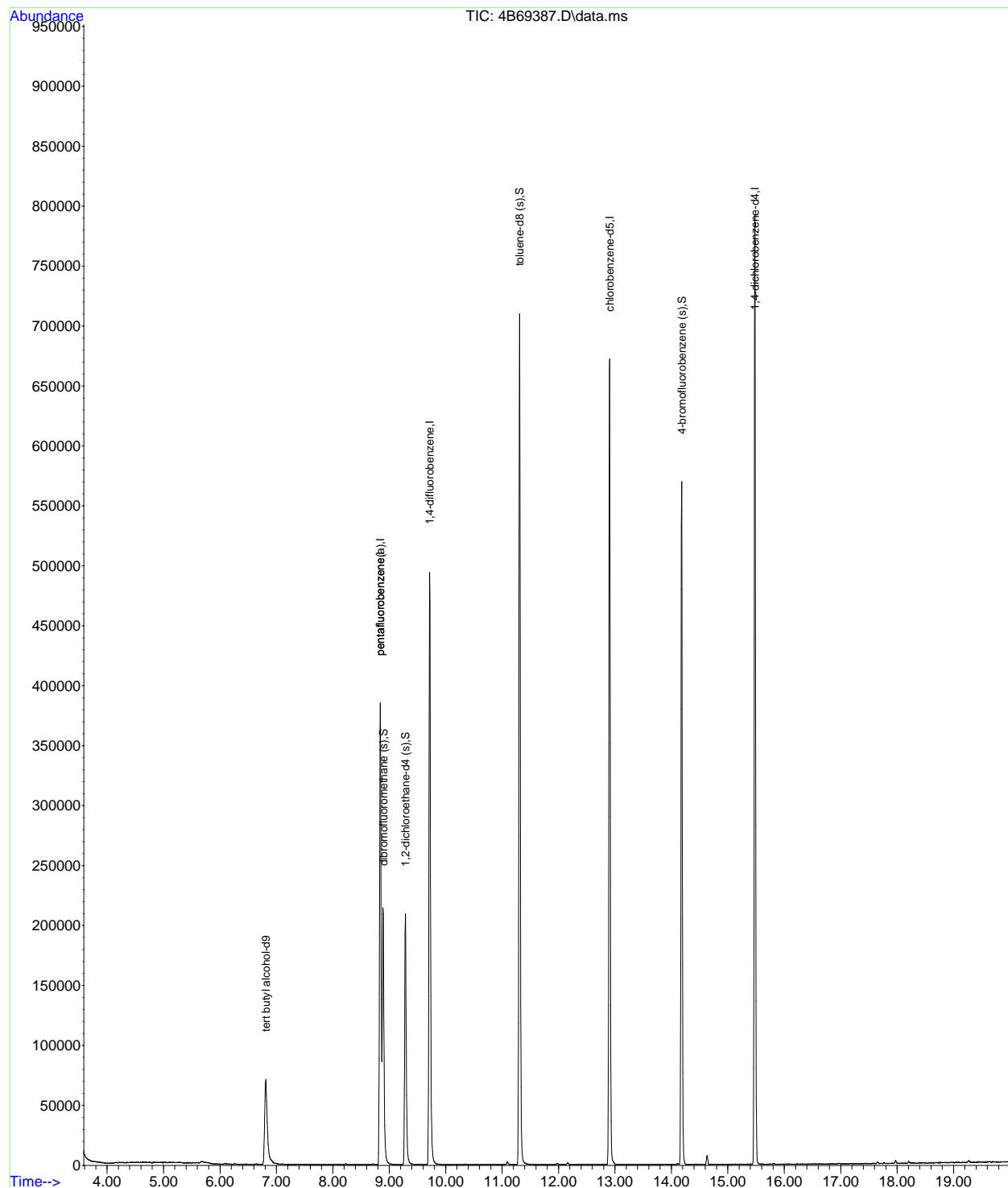
Target Compounds	Qvalue
<hr/>	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69387.D
 Acq On : 17 Feb 2017 10:12 am
 Operator : Hueanh
 Sample : mb
 Misc : MS12612,V4B2856,5,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 20 16:55:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69354.D
 Acq On : 16 Feb 2017 10:45 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 17 12:42:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	107920	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	271170	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	382795	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	359522	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215569	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	271170	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	120255	52.51	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 105.02%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	129139	52.06	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 104.12%		
80) toluene-d8 (s)	11.310	98	441987	49.99	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.98%		
105) 4-bromofluorobenzene (s)	14.181	95	178832	50.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 101.32%		
Target Compounds						
2) tertiary butyl alcohol	6.911	59	68774	244.29	ug/L	97
3) 1,4-dioxane	10.342	88	29628	1213.45	ug/L	98
7) chlorodifluoromethane	3.857	51	194222	45.29	ug/L	98
8) dichlorodifluoromethane	3.815	85	186611	50.16	ug/L	99
10) chloromethane	4.176	52	89991	48.33	ug/L	97
11) vinyl chloride	4.396	62	225789	45.53	ug/L	100
12) bromomethane	4.981	94	129991	56.64	ug/L	98
13) chloroethane	5.159	64	116255	52.53	ug/L	98
14) vinyl bromide	5.442	106	151813	49.05	ug/L	98
15) trichlorofluoromethane	5.515	101	220823	51.88	ug/L	99
16) 1,3-butadiene	4.474	54	155377	38.14	ug/L	99
19) ethyl ether	5.876	74	67988	44.39	ug/L	92
20) 2-chloropropane	6.075	39	52561	50.67	ug/L	73
21) acrolein	6.085	56	289957	472.07	ug/L	98
22) 1,1-dichloroethene	6.247	96	108521	43.23	ug/L	95
23) acetone	6.263	58	55773	187.43	ug/L	88
24) allyl chloride	6.713	76	156312	72.00	ug/L	# 72
25) acetonitrile	6.624	40	82724	475.68	ug/L	97
26) iodomethane	6.482	142	184426	35.71	ug/L	98
27) carbon disulfide	6.608	76	266772	33.53	ug/L	99
28) methylene chloride	6.870	84	131392	46.54	ug/L	96
29) methyl acetate	6.650	74	19284	45.59	ug/L	# 82
31) methyl tert butyl ether	7.173	73	702346	91.15	ug/L	98
32) trans-1,2-dichloroethene	7.215	96	114457	45.27	ug/L	97
33) di-isopropyl ether	7.696	45	509589	47.60	ug/L	99
34) 2-butanone	8.308	72	70337	217.10	ug/L	# 89
35) 1,1-dichloroethane	7.733	63	237089	46.45	ug/L	98
36) chloroprene	7.816	53	209110	50.62	ug/L	97
37) acrylonitrile	7.131	53	255161	234.39	ug/L	99
38) vinyl acetate	7.659	86	24666	48.93	ug/L	88
39) ethyl tert-butyl ether	8.109	59	438046	48.25	ug/L	100
40) ethyl acetate	8.308	45	21729	46.51	ug/L	96
41) 2,2-dichloropropane	8.392	77	116543	46.03	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	138296	48.95	ug/L	98
43) methylacrylate	8.392	85	18943	46.69	ug/L	93
44) propionitrile	8.386	54	189876	473.27	ug/L	94
45) bromochloromethane	8.643	128	71265	50.45	ug/L	99
46) tetrahydrafuran	8.658	42	46027	48.14	ug/L	98
47) chloroform	8.716	85	151618	49.20	ug/L	100
48) T-BUTYL FORMATE	8.742	59	82062	36.87	ug/L	93
51) freon 113	6.258	151	113850	52.87	ug/L	95
52) methacrylonitrile	8.559	41	89627	44.81	ug/L	99
53) 1,1,1-trichloroethane	8.956	97	175547	49.10	ug/L	99
54) cyclohexane	9.056	84	151404	41.31	ug/L	84

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69354.D
 Acq On : 16 Feb 2017 10:45 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12524,V4B2855,5,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 17 12:42:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.865	57	68598	233.16	ug/L	97
58) n-butyl alcohol	9.746	56	186505	2074.04	ug/L	99
59) carbon tetrachloride	9.134	117	155299	48.30	ug/L	98
60) 1,1-dichloropropene	9.108	75	176059	46.89	ug/L	99
61) hexane	7.513	57	152315	34.65	ug/L	98
62) Tert Amyl alcohol	9.207	73	29019	199.51	ug/L #	93
63) benzene	9.343	78	504119	46.00	ug/L	100
64) iso-octane	9.417	57	532734	45.59	ug/L	97
65) tert-amyl methyl ether	9.396	87	84485	49.48	ug/L	99
66) heptane	9.553	57	144524	52.29	ug/L	98
67) isopropyl acetate	9.228	61	54396	47.97	ug/L	94
68) 1,2-dichloroethane	9.370	62	173894	49.63	ug/L	100
69) trichloroethene	10.013	95	139442	50.75	ug/L	98
71) ethyl acrylate	9.987	55	171812	48.02	ug/L	99
72) 2-nitropropane	10.750	41	54157	49.00	ug/L	89
73) 2-chloroethyl vinyl ether	10.771	63	442330	239.20	ug/L	100
74) methyl methacrylate	10.243	100	35094	45.77	ug/L #	86
75) 1,2-dichloropropane	10.295	63	150146	50.35	ug/L	98
76) dibromomethane	10.405	93	86933	49.26	ug/L	99
77) methylcyclohexane	10.295	83	212201	46.19	ug/L	98
78) bromodichloromethane	10.546	83	191176	53.44	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	244646	51.17	ug/L	97
81) 4-methyl-2-pentanone	11.090	58	262809	216.21	ug/L	94
82) toluene	11.388	92	328058	47.23	ug/L	99
83) 3-methyl-1-butanol	11.085	55	119894	951.37	ug/L	97
84) trans-1,3-dichloropropene	11.577	75	212279	51.38	ug/L	99
85) ethyl methacrylate	11.551	69	176041	46.42	ug/L	98
86) 1,1,2-trichloroethane	11.807	83	110796	49.91	ug/L	98
87) 2-hexanone	11.969	58	250026	200.00	ug/L	97
89) tetrachloroethylene	11.959	164	137050	46.35	ug/L	98
90) 1,3-dichloropropane	12.000	76	207796	45.80	ug/L	99
91) butyl acetate	12.047	56	94239	44.97	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	113866	439.08	ug/L	98
93) dibromochloromethane	12.262	129	155068	54.71	ug/L	99
94) 1,2-dibromoethane	12.429	107	141389	47.46	ug/L	99
95) n-butyl ether	12.879	57	666033	49.21	ug/L	100
96) chlorobenzene	12.937	112	381316	47.53	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.010	131	140119	49.08	ug/L	97
98) ethylbenzene	12.999	91	632977	47.33	ug/L	100
99) m,p-xylene	13.130	106	491512	93.74	ug/L	97
100) o-xylene	13.569	106	256376	48.84	ug/L	100
101) styrene	13.585	104	427480	46.58	ug/L	96
102) bromoform	13.841	173	111067	45.99	ug/L	97
104) isopropylbenzene	13.951	105	672799	47.61	ug/L	99
106) cyclohexanone	14.103	55	61749	88.75	ug/L	98
107) bromobenzene	14.385	156	194039	47.38	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	182860	47.18	ug/L	98
109) trans-1,4-dichloro-2-b...	14.302	53	24684	30.07	ug/L	94
110) 1,2,3-trichloropropene	14.364	110	46213	47.63	ug/L	99
111) n-propylbenzene	14.412	91	789608	48.53	ug/L	99
113) 2-chlorotoluene	14.563	126	172527	48.65	ug/L	95
114) 4-chlorotoluene	14.689	91	491186	48.63	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	548983	47.37	ug/L	99
116) tert-butylbenzene	14.966	119	523959	49.00	ug/L	98
117) pentachloroethane	15.044	167	120482	53.15	ug/L	98
118) 1,2,4-trimethylbenzene	15.023	105	584474	49.57	ug/L	99
119) sec-butylbenzene	15.212	105	792708	49.96	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	368826	48.17	ug/L	100
121) p-isopropyltoluene	15.353	119	690783	50.05	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	369796	49.58	ug/L	99
123) benzyl chloride	15.609	91	311226	47.17	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	370368	49.84	ug/L	99
126) n-butylbenzene	15.813	92	370672	50.71	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69354.D
 Acq On : 16 Feb 2017 10:45 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 17 12:42:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.770	75	34076	51.49	ug/L	94
129) 1,3,5-TRICHLOROBENZENE	16.969	180	354929	54.06	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	293611	50.24	ug/L	99
131) hexachlorobutadiene	17.769	225	163117	47.57	ug/L	99
132) naphthalene	17.968	128	507712	48.04	ug/L	100
133) 1,2,3-trichlorobenzene	18.203	180	253553	49.29	ug/L	99
134) hexachloroethane	16.247	201	131468	50.92	ug/L	100
135) 2-ethylhexyl acrylate	17.660	70	18452	11.78	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

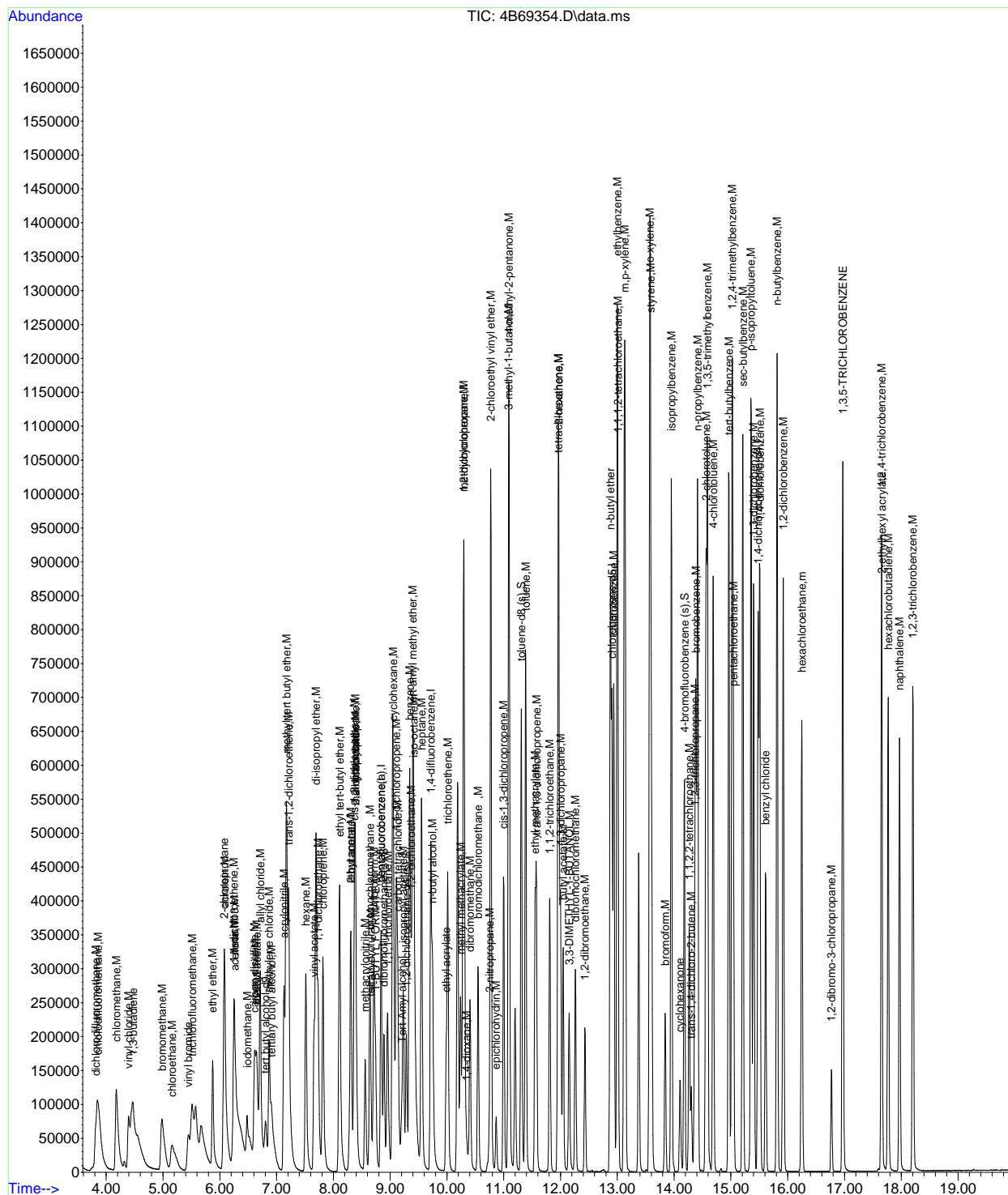
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855
Data File : 4B69354.D
Acq On : 16 Feb 2017 10:45 am
Operator : Hueanh
Sample : bs
Misc : MS12524,V4B2855,5,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 17 12:42:55 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via: Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69388.D
 Acq On : 17 Feb 2017 10:40 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 20 16:55:59 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	107842	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	263537	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	370789	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	346820	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	211419	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	263537	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	116882	52.52	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 105.04%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	126620	52.52	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 105.04%		
80) toluene-d8 (s)	11.310	98	430842	50.31	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 100.62%		
105) 4-bromofluorobenzene (s)	14.182	95	174208	50.32	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 100.64%		
Target Compounds						
2) tertiary butyl alcohol	6.906	59	68708	244.23	ug/L	96
3) 1,4-dioxane	10.343	88	31267	1281.51	ug/L	95
7) chlorodifluoromethane	3.857	51	182746	43.85	ug/L	95
8) dichlorodifluoromethane	3.810	85	114630	31.70	ug/L	98
10) chloromethane	4.181	52	73690	40.72	ug/L	93
11) vinyl chloride	4.401	62	173494	36.00	ug/L	97
12) bromomethane	4.982	94	104946	47.05	ug/L	98
13) chloroethane	5.165	64	90155	41.92	ug/L	97
14) vinyl bromide	5.442	106	121872	40.52	ug/L	99
15) trichlorofluoromethane	5.510	101	161579	39.06	ug/L	94
16) 1,3-butadiene	4.474	54	110824	27.99	ug/L	100
19) ethyl ether	5.876	74	73936	49.67	ug/L	90
20) 2-chloropropane	6.069	39	48247	47.86	ug/L	89
21) acrolein	6.085	56	264160	442.53	ug/L	99
22) 1,1-dichloroethene	6.253	96	117703	48.25	ug/L	99
23) acetone	6.258	58	55489	191.88	ug/L	92
24) allyl chloride	6.708	76	195746	94.56	ug/L	# 62
25) acetonitrile	6.624	40	89049	526.88	ug/L	100
26) iodomethane	6.524	142	117767	23.46	ug/L	97
27) carbon disulfide	6.613	76	320435	41.44	ug/L	99
28) methylene chloride	6.870	84	137394	50.07	ug/L	97
29) methyl acetate	6.650	74	19399	47.19	ug/L	# 79
31) methyl tert butyl ether	7.173	73	704392	94.06	ug/L	99
32) trans-1,2-dichloroethene	7.210	96	114241	46.49	ug/L	94
33) di-isopropyl ether	7.691	45	495808	47.66	ug/L	98
34) 2-butanone	8.308	72	68948	218.98	ug/L	94
35) 1,1-dichloroethane	7.727	63	239133	48.21	ug/L	100
36) chloroprene	7.816	53	188736	47.01	ug/L	97
37) acrylonitrile	7.126	53	260393	246.12	ug/L	99
38) vinyl acetate	7.659	86	24419	49.84	ug/L	87
39) ethyl tert-butyl ether	8.109	59	430065	48.74	ug/L	99
40) ethyl acetate	8.308	45	21630	47.64	ug/L	77
41) 2,2-dichloropropane	8.392	77	115578	46.97	ug/L	96
42) cis-1,2-dichloroethene	8.371	96	139135	50.67	ug/L	98
43) methylacrylate	8.392	85	18810	47.70	ug/L	# 91
44) propionitrile	8.386	54	191514	491.18	ug/L	94
45) bromochloromethane	8.643	128	71695	52.23	ug/L	97
46) tetrahydrafuran	8.658	42	43860	47.20	ug/L	99
47) chloroform	8.711	85	149177	49.81	ug/L	98
48) T-BUTYL FORMATE	8.742	59	84302	38.97	ug/L	92
51) freon 113	6.258	151	85241	40.73	ug/L	99
52) methacrylonitrile	8.559	41	89355	45.97	ug/L	100
53) 1,1,1-trichloroethane	8.951	97	170042	48.93	ug/L	99
54) cyclohexane	9.056	84	111291	31.25	ug/L	# 62

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69388.D
 Acq On : 17 Feb 2017 10:40 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 20 16:55:59 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.866	57	70780	248.36	ug/L	97
58) n-butyl alcohol	9.746	56	191443	2197.88	ug/L	97
59) carbon tetrachloride	9.134	117	149917	48.14	ug/L	98
60) 1,1-dichloropropene	9.108	75	170276	46.81	ug/L	99
61) hexane	7.513	57	109948	25.82	ug/L	99
62) Tert Amyl alcohol	9.208	73	29689	210.72	ug/L	94
63) benzene	9.344	78	499543	47.06	ug/L	99
64) iso-octane	9.417	57	389245	34.39	ug/L	91
65) tert-amyl methyl ether	9.396	87	82971	50.17	ug/L	96
66) heptane	9.553	57	108369	40.48	ug/L	96
67) isopropyl acetate	9.229	61	53537	48.74	ug/L	96
68) 1,2-dichloroethane	9.370	62	174525	51.43	ug/L	99
69) trichloroethene	10.013	95	133508	50.16	ug/L	99
71) ethyl acrylate	9.987	55	169343	48.86	ug/L	# 79
72) 2-nitropropane	10.745	41	53831	50.28	ug/L	# 54
73) 2-chloroethyl vinyl ether	10.771	63	437264	244.11	ug/L	98
74) methyl methacrylate	10.238	100	33475	45.07	ug/L	# 88
75) 1,2-dichloropropane	10.295	63	146172	50.61	ug/L	99
76) dibromomethane	10.405	93	85135	49.80	ug/L	98
77) methylcyclohexane	10.295	83	156180	35.10	ug/L	97
78) bromodichloromethane	10.547	83	185584	53.56	ug/L	99
79) cis-1,3-dichloropropene	10.996	75	239943	51.81	ug/L	97
81) 4-methyl-2-pentanone	11.090	58	259356	220.27	ug/L	96
82) toluene	11.383	92	312148	46.39	ug/L	99
83) 3-methyl-1-butanol	11.080	55	123818	1014.32	ug/L	99
84) trans-1,3-dichloropropene	11.572	75	208032	51.99	ug/L	97
85) ethyl methacrylate	11.551	69	171637	46.73	ug/L	99
86) 1,1,2-trichloroethane	11.807	83	105426	49.03	ug/L	99
87) 2-hexanone	11.969	58	254811	210.43	ug/L	96
89) tetrachloroethylene	11.959	164	125899	44.14	ug/L	98
90) 1,3-dichloropropane	12.001	76	199910	45.68	ug/L	99
91) butyl acetate	12.048	56	93583	46.29	ug/L	95
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	114233	456.63	ug/L	97
93) dibromochloromethane	12.262	129	149140	54.54	ug/L	99
94) 1,2-dibromoethane	12.429	107	136702	47.57	ug/L	98
95) n-butyl ether	12.874	57	639242	48.96	ug/L	100
96) chlorobenzene	12.937	112	362907	46.90	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.005	131	134704	48.91	ug/L	99
98) ethylbenzene	13.000	91	598346	46.38	ug/L	98
99) m,p-xylene	13.130	106	468610	92.64	ug/L	96
100) o-xylene	13.570	106	243723	48.13	ug/L	96
101) styrene	13.585	104	406870	45.96	ug/L	96
102) bromoform	13.842	173	109584	47.02	ug/L	96
104) isopropylbenzene	13.951	105	629043	45.39	ug/L	99
106) cyclohexanone	14.103	55	63299	92.76	ug/L	97
107) bromobenzene	14.380	156	187348	46.64	ug/L	98
108) 1,1,2,2-tetrachloroethane	14.265	83	178348	46.92	ug/L	98
109) trans-1,4-dichloro-2-b...	14.302	53	32921	40.31	ug/L	96
110) 1,2,3-trichloropropene	14.365	110	44543	46.81	ug/L	97
111) n-propylbenzene	14.412	91	745792	46.74	ug/L	99
113) 2-chlorotoluene	14.563	126	164391	47.27	ug/L	96
114) 4-chlorotoluene	14.689	91	473457	47.79	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	522889	46.00	ug/L	99
116) tert-butylbenzene	14.961	119	491416	46.86	ug/L	97
117) pentachloroethane	15.039	167	116653	52.47	ug/L	99
118) 1,2,4-trimethylbenzene	15.018	105	561740	48.58	ug/L	99
119) sec-butylbenzene	15.207	105	729283	46.87	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	355862	47.39	ug/L	99
121) p-isopropyltoluene	15.353	119	646883	47.79	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	354138	48.42	ug/L	100
123) benzyl chloride	15.609	91	318380	49.20	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	358558	49.20	ug/L	99
126) n-butylbenzene	15.813	92	344748	48.09	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69388.D
 Acq On : 17 Feb 2017 10:40 am
 Operator : Hueanht
 Sample : bs
 Misc : MS12539,V4B2856,5,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 20 16:55:59 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

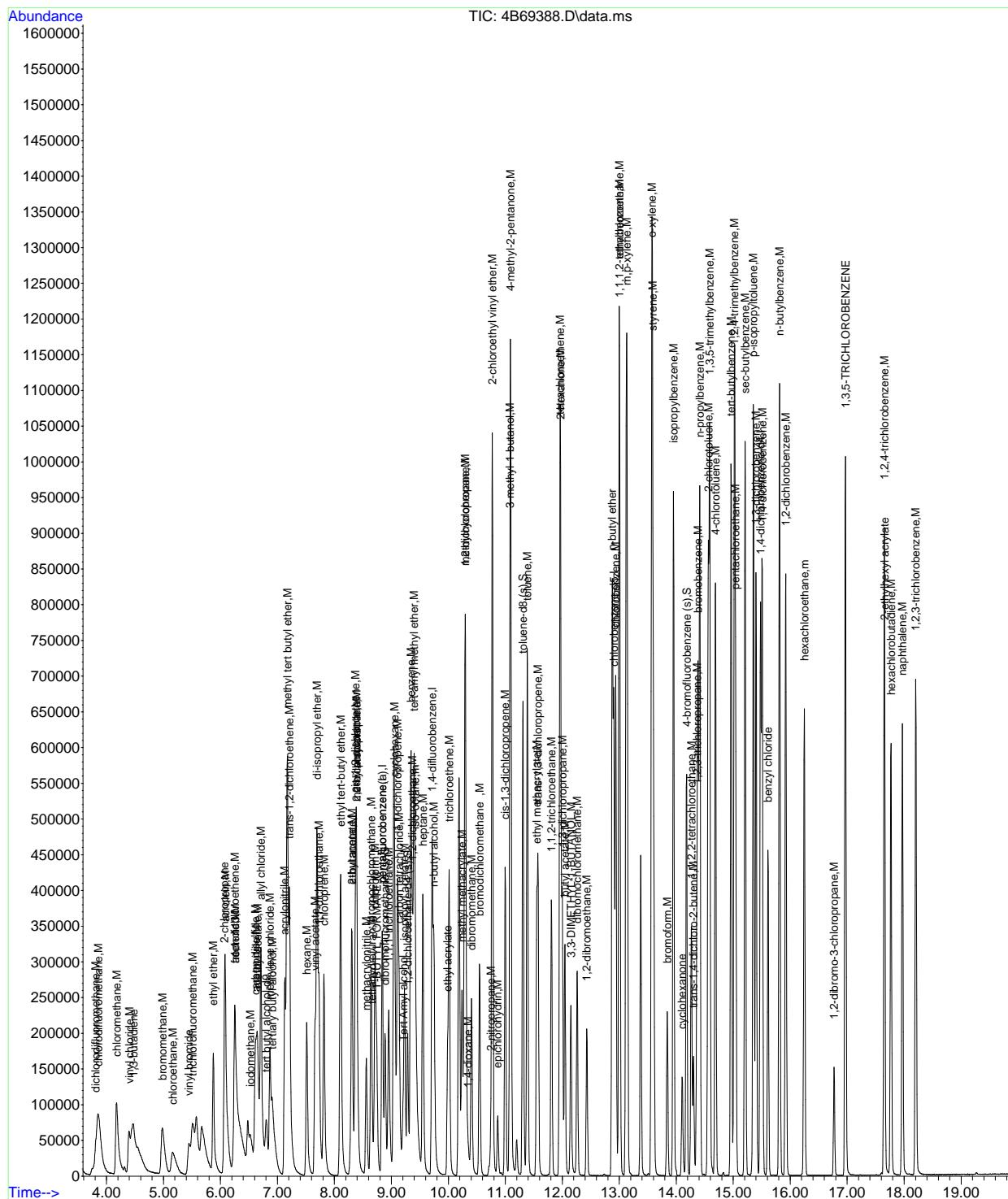
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.771	75	33072	50.96	ug/L	99
129) 1,3,5-TRICHLOROBENZENE	16.969	180	338233	52.52	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	279967	48.84	ug/L	98
131) hexachlorobutadiene	17.770	225	145188	43.17	ug/L	99
132) naphthalene	17.968	128	489032	47.18	ug/L	100
133) 1,2,3-trichlorobenzene	18.204	180	241195	47.80	ug/L	98
134) hexachloroethane	16.247	201	128929	50.91	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	17045	11.17	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57
Data File : 4B69388.D
Acq On : 17 Feb 2017 10:40 am
Operator : Hueanht
Sample : bs
Misc : MS12539,V4B2856,5,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 20 16:55:59 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69371.D
 Acq On : 16 Feb 2017 6:57 pm
 Operator : Hueanht
 Sample : jc37020-16ms
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 12:41:57 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	148075	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	270919	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	388451	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	364108	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	218842	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	270919	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	122204	53.41	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 106.82%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	134961	54.46	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 108.92%		
80) toluene-d8 (s)	11.310	98	444819	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.16%		
105) 4-bromofluorobenzene (s)	14.181	95	181961	50.78	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 101.56%		
Target Compounds						
2) tertiary butyl alcohol	6.911	59	94917	245.72	ug/L	97
3) 1,4-dioxane	10.342	88	32881	981.49	ug/L	91
7) chlorodifluoromethane	3.867	51	191935	44.80	ug/L	98
8) dichlorodifluoromethane	3.831	85	135423	36.43	ug/L	98
10) chloromethane	4.176	52	74991	40.31	ug/L	99
11) vinyl chloride	4.401	62	217337	43.87	ug/L	98
12) bromomethane	4.976	94	117206	51.12	ug/L	98
13) chloroethane	5.154	64	115985	52.46	ug/L	99
14) vinyl bromide	5.447	106	149705	48.42	ug/L	99
15) trichlorofluoromethane	5.525	101	216888	51.01	ug/L	98
19) ethyl ether	5.876	74	72184	47.17	ug/L	95
20) 2-chloropropane	6.075	39	57321	55.31	ug/L	93
21) acrolein	6.085	56	246142	401.11	ug/L	97
22) 1,1-dichloroethene	6.247	96	112715	44.94	ug/L	97
23) acetone	6.258	58	59294	199.45	ug/L	92
24) allyl chloride	6.713	76	96870	43.57	ug/L	98
25) acetonitrile	6.629	40	93834	540.06	ug/L	99
26) iodomethane	6.482	142	224465	43.50	ug/L	96
27) carbon disulfide	6.613	76	336427	42.32	ug/L	98
28) methylene chloride	6.870	84	133538	47.34	ug/L	95
29) methyl acetate	6.650	74	16887	39.96	ug/L	# 87
31) methyl tert butyl ether	7.173	73	712985	92.62	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	120710	47.78	ug/L	96
33) di-isopropyl ether	7.696	45	520788	48.69	ug/L	96
34) 2-butanone	8.308	72	76097	235.10	ug/L	98
35) 1,1-dichloroethane	7.733	63	256114	50.22	ug/L	99
36) chloroprene	7.816	53	219655	53.22	ug/L	96
37) acrylonitrile	7.131	53	278001	255.61	ug/L	99
38) vinyl acetate	7.659	86	18384	36.50	ug/L	82
39) ethyl tert-butyl ether	8.109	59	440691	48.58	ug/L	100
40) ethyl acetate	8.308	45	19939	42.72	ug/L	68
41) 2,2-dichloropropane	8.392	77	112186	44.35	ug/L	98
42) cis-1,2-dichloroethene	8.371	96	140898	49.92	ug/L	100
43) methylacrylate	8.392	85	19884	49.05	ug/L	# 90
44) propionitrile	8.386	54	211004	526.42	ug/L	91
45) bromochloromethane	8.643	128	71181	50.44	ug/L	95
46) tetrahydrofuran	8.658	42	51641	54.06	ug/L	98
47) chloroform	8.716	85	153663	49.91	ug/L	100
48) T-BUTYL FORMATE	8.956	59	2454	1.10	ug/L	# 10
51) freon 113	6.258	151	118885	55.26	ug/L	95
52) methacrylonitrile	8.559	41	95874	47.98	ug/L	98
53) 1,1,1-trichloroethane	8.956	97	196674	55.06	ug/L	98
54) cyclohexane	9.056	84	184871	50.49	ug/L	# 79
57) epichlorohydrin	10.871	57	7149	23.94	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69371.D
 Acq On : 16 Feb 2017 6:57 pm
 Operator : Hueanht
 Sample : jc37020-16ms
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 12:41:57 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) n-butyl alcohol	9.746	56	251069	2751.37	ug/L	97
59) carbon tetrachloride	9.134	117	168041	51.51	ug/L	97
60) 1,1-dichloropropene	9.108	75	184407	48.39	ug/L	97
61) hexane	7.518	57	130466	29.25	ug/L	97
62) Tert Amyl alcohol	9.213	73	41114	278.55	ug/L	88
63) benzene	9.343	78	516937	46.48	ug/L	98
64) iso-octane	9.417	57	440274	37.13	ug/L	96
65) tert-amyl methyl ether	9.396	87	85193	49.17	ug/L	91
66) heptane	9.553	57	106417	37.94	ug/L	98
67) isopropyl acetate	9.234	61	51958	45.15	ug/L	96
68) 1,2-dichloroethane	9.370	62	176455	49.63	ug/L	99
69) trichloroethene	10.013	95	142178	50.99	ug/L	98
71) ethyl acrylate	9.987	55	180778	49.79	ug/L	87
72) 2-nitropropane	10.750	41	40301	35.93	ug/L	# 35
74) methyl methacrylate	10.238	100	35184	45.21	ug/L	# 89
75) 1,2-dichloropropane	10.301	63	150099	49.61	ug/L	98
76) dibromomethane	10.405	93	86661	48.39	ug/L	99
77) methylcyclohexane	10.301	83	208071	44.63	ug/L	98
78) bromodichloromethane	10.546	83	186603	51.41	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	236366	48.72	ug/L	95
81) 4-methyl-2-pentanone	11.090	58	296292	240.20	ug/L	90
82) toluene	11.383	92	326396	46.30	ug/L	99
83) 3-methyl-1-butanol	11.085	55	174401	1363.73	ug/L	99
84) trans-1,3-dichloropropene	11.577	75	196311	46.83	ug/L	98
85) ethyl methacrylate	11.551	69	184029	47.82	ug/L	98
86) 1,1,2-trichloroethane	11.807	83	109727	48.71	ug/L	99
87) 2-hexanone	11.969	58	292206	230.34	ug/L	96
89) tetrachloroethene	11.959	164	140374	46.87	ug/L	97
90) 1,3-dichloropropane	12.000	76	201903	43.94	ug/L	97
91) butyl acetate	12.047	56	84725	39.92	ug/L	96
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	190162	724.05	ug/L	98
93) dibromochloromethane	12.262	129	144894	50.47	ug/L	99
94) 1,2-dibromoethane	12.429	107	140707	46.64	ug/L	99
95) n-butyl ether	12.879	57	668782	48.79	ug/L	100
96) chlorobenzene	12.937	112	376177	46.30	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.010	131	138413	47.87	ug/L	98
98) ethylbenzene	12.999	91	633502	46.77	ug/L	99
99) m,p-xylene	13.130	106	487660	91.83	ug/L	96
100) o-xylene	13.569	106	249712	46.98	ug/L	97
101) styrene	13.585	104	394192	42.41	ug/L	98
102) bromoform	13.841	173	102477	41.97	ug/L	98
104) isopropylbenzene	13.951	105	674450	47.01	ug/L	99
106) cyclohexanone	14.108	55	58020	82.14	ug/L	98
107) bromobenzene	14.385	156	189770	45.64	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	191318	48.62	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	16107	19.92	ug/L	94
110) 1,2,3-trichloropropane	14.364	110	48144	48.88	ug/L	99
111) n-propylbenzene	14.412	91	799375	48.40	ug/L	99
113) 2-chlorotoluene	14.563	126	171953	47.76	ug/L	94
114) 4-chlorotoluene	14.689	91	493863	48.16	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	544301	46.26	ug/L	99
116) tert-butylbenzene	14.966	119	527466	48.59	ug/L	97
117) pentachloroethane	15.044	167	116537	50.64	ug/L	97
118) 1,2,4-trimethylbenzene	15.023	105	569531	47.58	ug/L	100
119) sec-butylbenzene	15.212	105	795560	49.39	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	361274	46.48	ug/L	99
121) p-isopropyltoluene	15.358	119	685340	48.91	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	362637	47.90	ug/L	100
123) benzyl chloride	15.614	91	235238	35.12	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	359600	47.67	ug/L	99
126) n-butylbenzene	15.813	92	363319	48.97	ug/L	98
128) 1,2-dibromo-3-chloropr...	16.770	75	35485	52.82	ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.969	180	329930	49.50	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69371.D
 Acq On : 16 Feb 2017 6:57 pm
 Operator : Hueanht
 Sample : jc37020-16ms
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 12:41:57 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

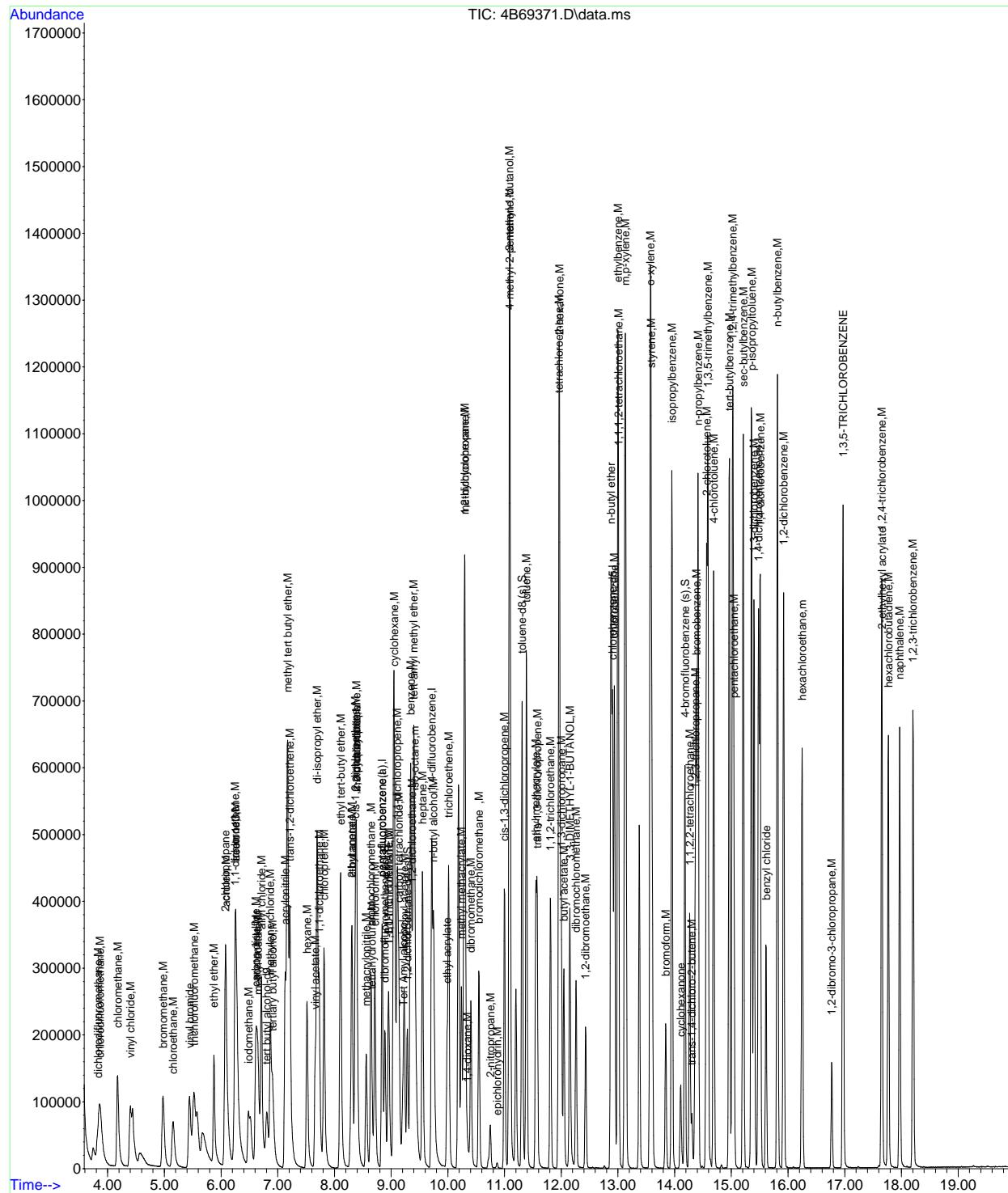
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
130) 1,2,4-trichlorobenzene	17.654	180	276008	46.52	ug/L	99
131) hexachlorobutadiene	17.769	225	150898	43.35	ug/L	98
132) naphthalene	17.968	128	507436	47.29	ug/L	100
133) 1,2,3-trichlorobenzene	18.203	180	240380	46.03	ug/L	99
134) hexachloroethane	16.247	201	121919	46.51	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	15180	9.80	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69371.D
 Acq On : 16 Feb 2017 6:57 pm
 Operator : Hueanh
 Sample : jc37020-16ms
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 12:41:57 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69372.D
 Acq On : 16 Feb 2017 7:25 pm
 Operator : Hueanht
 Sample : jc37020-16msd
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 17 12:42:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	145122	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	279086	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	389654	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	363950	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	220053	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	279086	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	122887	52.14	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 104.28%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	133134	52.15	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 104.30%		
80) toluene-d8 (s)	11.310	98	449106	49.90	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 99.80%		
105) 4-bromofluorobenzene (s)	14.182	95	183804	51.01	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 102.02%		
Target Compounds						
2) tertiary butyl alcohol	6.901	59	93797	247.76	ug/L	94
3) 1,4-dioxane	10.343	88	35152	1070.63	ug/L	95
7) chlorodifluoromethane	3.868	51	188773	42.77	ug/L	97
8) dichlorodifluoromethane	3.836	85	152391	39.80	ug/L	99
10) chloromethane	4.171	52	75077	39.18	ug/L	97
11) vinyl chloride	4.396	62	223927	43.87	ug/L	97
12) bromomethane	4.971	94	122392	51.82	ug/L	97
13) chloroethane	5.149	64	118207	51.90	ug/L	99
14) vinyl bromide	5.442	106	157062	49.31	ug/L	99
15) trichlorofluoromethane	5.526	101	229412	52.37	ug/L	100
19) ethyl ether	5.876	74	72022	45.69	ug/L	97
20) 2-chloropropane	6.075	39	58845	55.12	ug/L	95
21) acrolein	6.085	56	238882	377.88	ug/L	99
22) 1,1-dichloroethene	6.247	96	109437	42.36	ug/L	94
23) acetone	6.258	58	59458	194.15	ug/L	94
24) allyl chloride	6.713	76	77103	33.34	ug/L	# 74
25) acetonitrile	6.624	40	96605	539.74	ug/L	98
26) iodomethane	6.483	142	231894	43.62	ug/L	97
27) carbon disulfide	6.608	76	335636	40.99	ug/L	99
28) methylene chloride	6.870	84	130920	45.06	ug/L	98
29) methyl acetate	6.650	74	16916	38.85	ug/L	94
31) methyl tert butyl ether	7.173	73	711440	89.71	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	118529	45.55	ug/L	96
33) di-isopropyl ether	7.691	45	510842	46.37	ug/L	99
34) 2-butanone	8.303	72	74414	223.17	ug/L	96
35) 1,1-dichloroethane	7.733	63	247274	47.07	ug/L	100
36) chloroprene	7.816	53	218061	51.29	ug/L	97
37) acrylonitrile	7.126	53	271022	241.90	ug/L	99
38) vinyl acetate	7.665	86	16492	31.79	ug/L	87
39) ethyl tert-butyl ether	8.109	59	440263	47.12	ug/L	100
40) ethyl acetate	8.313	45	18663	38.82	ug/L	98
41) 2,2-dichloropropane	8.392	77	113662	43.62	ug/L	97
42) cis-1,2-dichloroethene	8.371	96	140309	48.25	ug/L	100
43) methylacrylate	8.392	85	19253	46.11	ug/L	# 86
44) propionitrile	8.381	54	207046	501.43	ug/L	79
45) bromochloromethane	8.643	128	70699	48.63	ug/L	97
46) tetrahydrofuran	8.658	42	49271	50.07	ug/L	98
47) chloroform	8.711	85	150713	47.52	ug/L	99
48) T-BUTYL FORMATE	8.957	59	2424	1.06	ug/L	# 10
51) freon 113	6.253	151	134850	60.85	ug/L	99
52) methacrylonitrile	8.559	41	94401	45.86	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	198231	53.87	ug/L	99
54) cyclohexane	9.056	84	189005	50.11	ug/L	94
57) epichlorohydrin	10.866	57	5707	19.06	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69372.D
 Acq On : 16 Feb 2017 7:25 pm
 Operator : Hueanht
 Sample : jc37020-16msd
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 17 12:42:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) n-butyl alcohol	9.746	56	251020	2742.34	ug/L	98
59) carbon tetrachloride	9.134	117	169325	51.74	ug/L	97
60) 1,1-dichloropropene	9.108	75	181785	47.56	ug/L	98
61) hexane	7.518	57	150361	33.61	ug/L	99
62) Tert Amyl alcohol	9.208	73	41986	283.58	ug/L	86
63) benzene	9.344	78	509663	45.69	ug/L	100
64) iso-octane	9.417	57	513798	43.20	ug/L	98
65) tert-amyl methyl ether	9.396	87	86548	49.80	ug/L	98
66) heptane	9.553	57	109606	38.96	ug/L	99
67) isopropyl acetate	9.234	61	52250	45.26	ug/L	100
68) 1,2-dichloroethane	9.370	62	171148	47.99	ug/L	99
69) trichloroethene	10.013	95	139645	49.92	ug/L	99
71) ethyl acrylate	9.987	55	181815	49.92	ug/L	88
72) 2-nitropropane	10.745	41	38495	34.22	ug/L	# 39
74) methyl methacrylate	10.238	100	35807	45.87	ug/L	95
75) 1,2-dichloropropane	10.301	63	146803	48.37	ug/L	99
76) dibromomethane	10.405	93	86277	48.03	ug/L	98
77) methylcyclohexane	10.296	83	228073	48.77	ug/L	97
78) bromodichloromethane	10.547	83	185425	50.92	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	232142	47.70	ug/L	96
81) 4-methyl-2-pentanone	11.091	58	300224	242.64	ug/L	93
82) toluene	11.383	92	320699	45.36	ug/L	98
83) 3-methyl-1-butanol	11.080	55	178011	1387.67	ug/L	95
84) trans-1,3-dichloropropene	11.577	75	195800	46.56	ug/L	99
85) ethyl methacrylate	11.551	69	184602	47.82	ug/L	98
86) 1,1,2-trichloroethane	11.807	83	108355	47.95	ug/L	96
87) 2-hexanone	11.969	58	292519	229.87	ug/L	98
89) tetrachloroethene	11.959	164	138272	46.19	ug/L	98
90) 1,3-dichloropropane	12.001	76	201035	43.77	ug/L	98
91) butyl acetate	12.048	56	83561	39.39	ug/L	95
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	202372	770.88	ug/L	98
93) dibromochloromethane	12.262	129	144343	50.30	ug/L	98
94) 1,2-dibromoethane	12.429	107	138515	45.93	ug/L	99
95) n-butyl ether	12.879	57	651457	47.55	ug/L	100
96) chlorobenzene	12.937	112	372515	45.87	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.005	131	137786	47.67	ug/L	98
98) ethylbenzene	13.000	91	622472	45.98	ug/L	99
99) m,p-xylene	13.130	106	482377	90.88	ug/L	96
100) o-xylene	13.570	106	249550	46.97	ug/L	98
101) styrene	13.585	104	401913	43.26	ug/L	96
102) bromoform	13.842	173	104311	42.73	ug/L	94
104) isopropylbenzene	13.951	105	668658	46.35	ug/L	99
106) cyclohexanone	14.103	55	57732	81.29	ug/L	98
107) bromobenzene	14.386	156	189545	45.34	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.265	83	189073	47.79	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	17203	21.05	ug/L	97
110) 1,2,3-trichloropropane	14.365	110	47958	48.42	ug/L	98
111) n-propylbenzene	14.412	91	784015	47.21	ug/L	99
113) 2-chlorotoluene	14.563	126	169247	46.75	ug/L	95
114) 4-chlorotoluene	14.689	91	483195	46.86	ug/L	100
115) 1,3,5-trimethylbenzene	14.584	105	539430	45.59	ug/L	100
116) tert-butylbenzene	14.966	119	523960	48.00	ug/L	99
117) pentachloroethane	15.045	167	117308	50.69	ug/L	98
118) 1,2,4-trimethylbenzene	15.024	105	570097	47.37	ug/L	99
119) sec-butylbenzene	15.207	105	784860	48.46	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	357458	45.73	ug/L	99
121) p-isopropyltoluene	15.353	119	674152	47.85	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	356813	46.87	ug/L	99
123) benzyl chloride	15.609	91	233405	34.65	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	359903	47.45	ug/L	100
126) n-butylbenzene	15.813	92	356464	47.78	ug/L	98
128) 1,2-dibromo-3-chloropr...	16.771	75	35292	52.24	ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.969	180	328225	48.97	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69372.D
 Acq On : 16 Feb 2017 7:25 pm
 Operator : Hueanht
 Sample : jc37020-16msd
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 17 12:42:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

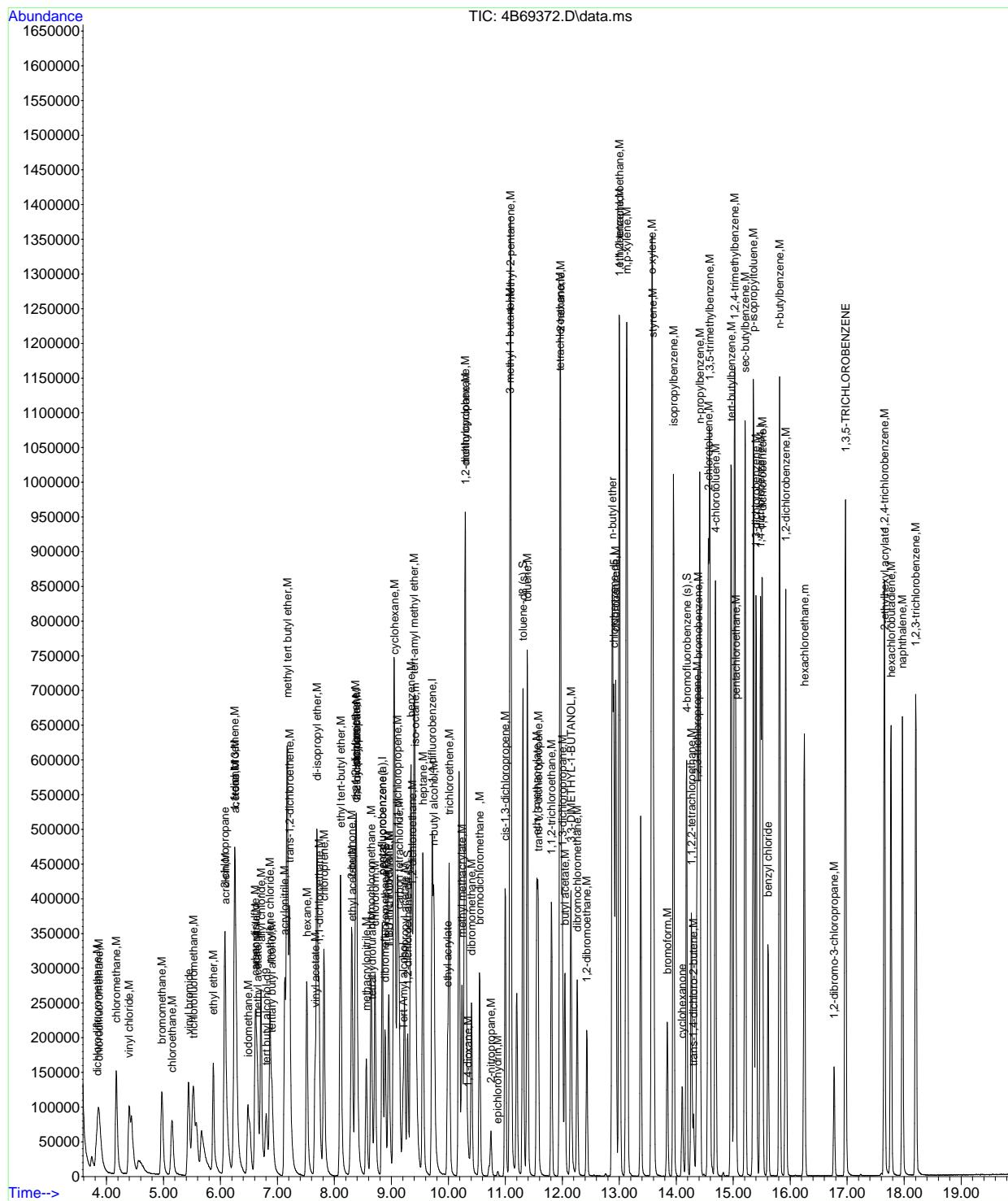
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
130) 1,2,4-trichlorobenzene	17.654	180	275953	46.25	ug/L	99
131) hexachlorobutadiene	17.770	225	152238	43.49	ug/L	100
132) naphthalene	17.968	128	512221	47.48	ug/L	99
133) 1,2,3-trichlorobenzene	18.204	180	241821	46.05	ug/L	98
134) hexachloroethane	16.248	201	125398	47.58	ug/L	100
135) 2-ethylhexyl acrylate	17.660	70	15667	10.02	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69372.D
 Acq On : 16 Feb 2017 7:25 pm
 Operator : Hueanh
 Sample : jc37020-16msd
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 17 12:42:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69396.D
 Acq On : 17 Feb 2017 2:38 pm
 Operator : Hueanht
 Sample : jc37230-5ms
 Misc : MS12612,V4B2856,5,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 20 16:59:33 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.801	65	125764	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	280194	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	391733	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	361505	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	220983	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	280194	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	124286	52.52	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.04%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	133313	52.01	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.02%			
80) toluene-d8 (s)	11.310	98	450301	49.77	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.54%			
105) 4-bromofluorobenzene (s)	14.181	95	184053	50.86	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.72%			
Target Compounds						
2) tertiary butyl alcohol	6.906	59	79375	241.94	ug/L	99
3) 1,4-dioxane	10.337	88	22416	787.81	ug/L	84
7) chlorodifluoromethane	3.862	51	177070	39.96	ug/L	98
8) dichlorodifluoromethane	3.820	85	211644	55.05	ug/L	98
10) chloromethane	4.171	52	91415	47.51	ug/L	98
11) vinyl chloride	4.396	62	249640	48.72	ug/L	99
12) bromomethane	4.971	94	128746	54.29	ug/L	99
13) chloroethane	5.149	64	122234	53.46	ug/L	100
14) vinyl bromide	5.442	106	166616	52.10	ug/L	99
15) trichlorofluoromethane	5.520	101	236911	53.87	ug/L	98
19) ethyl ether	5.876	74	75638	47.79	ug/L	96
20) 2-chloropropane	6.074	39	61992	57.83	ug/L	89
21) acrolein	6.085	56	287777	453.43	ug/L	97
22) 1,1-dichloroethene	6.252	96	127807	49.27	ug/L	100
23) acetone	6.258	58	57739	187.79	ug/L	96
24) allyl chloride	6.707	76	99248	43.14	ug/L	98
25) acetonitrile	6.624	40	92339	513.86	ug/L	96
26) iodomethane	6.509	142	259177	48.56	ug/L	97
27) carbon disulfide	6.613	76	412781	50.21	ug/L	99
28) methylene chloride	6.869	84	140002	47.99	ug/L	98
29) methyl acetate	6.650	74	20603	47.14	ug/L	93
31) methyl tert butyl ether	7.173	73	709490	89.11	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	125159	47.90	ug/L	97
33) di-isopropyl ether	7.691	45	510400	46.14	ug/L	98
34) 2-butanone	8.303	72	72448	216.41	ug/L	95
35) 1,1-dichloroethane	7.727	63	251139	47.62	ug/L	99
36) chloroprene	7.816	53	220333	51.61	ug/L	98
37) acrylonitrile	7.126	53	267003	237.37	ug/L	97
38) vinyl acetate	7.659	86	25226	48.43	ug/L	99
39) ethyl tert-butyl ether	8.104	59	437668	46.65	ug/L	99
40) ethyl acetate	8.308	45	22686	47.00	ug/L	89
41) 2,2-dichloropropane	8.391	77	132323	50.58	ug/L	100
42) cis-1,2-dichloroethene	8.371	96	143546	49.17	ug/L	99
43) methylacrylate	8.391	85	19053	45.45	ug/L	# 88
44) propionitrile	8.386	54	194514	469.22	ug/L	95
45) bromochloromethane	8.643	128	72441	49.63	ug/L	99
46) tetrahydrofuran	8.658	42	49726	50.34	ug/L	98
47) chloroform	8.711	85	152948	48.03	ug/L	98
48) T-BUTYL FORMATE	8.742	59	20469	8.90	ug/L	87
51) freon 113	6.252	151	137922	61.99	ug/L	97
52) methacrylonitrile	8.559	41	90959	44.01	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	194045	52.52	ug/L	99
54) cyclohexane	9.056	84	196534	51.90	ug/L	90
57) epichlorohydrin	10.865	57	60155	199.80	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69396.D
 Acq On : 17 Feb 2017 2:38 pm
 Operator : Hueanht
 Sample : jc37230-5ms
 Misc : MS12612,V4B2856,5,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 20 16:59:33 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) n-butyl alcohol	9.746	56	207861	2258.78	ug/L	98
59) carbon tetrachloride	9.134	117	175928	53.47	ug/L	98
60) 1,1-dichloropropene	9.108	75	188720	49.11	ug/L	98
61) hexane	7.513	57	192830	42.87	ug/L	98
62) Tert Amyl alcohol	9.202	73	34270	230.23	ug/L	93
63) benzene	9.343	78	522048	46.55	ug/L	100
64) iso-octane	9.417	57	617215	51.62	ug/L	99
65) tert-amyl methyl ether	9.396	87	85205	48.77	ug/L	96
66) heptane	9.553	57	148239	52.41	ug/L	98
67) isopropyl acetate	9.234	61	57004	49.12	ug/L	97
68) 1,2-dichloroethane	9.370	62	172685	48.16	ug/L	100
69) trichloroethene	10.013	95	142496	50.67	ug/L	99
71) ethyl acrylate	9.987	55	176621	48.24	ug/L	88
72) 2-nitropropane	10.745	41	36854	32.58	ug/L	# 34
74) methyl methacrylate	10.238	100	34957	44.55	ug/L	# 88
75) 1,2-dichloropropane	10.301	63	146962	48.16	ug/L	96
76) dibromomethane	10.405	93	85793	47.50	ug/L	97
77) methylcyclohexane	10.295	83	233912	49.76	ug/L	98
78) bromodichloromethane	10.546	83	186278	50.89	ug/L	99
79) cis-1,3-dichloropropene	10.996	75	244533	49.98	ug/L	98
81) 4-methyl-2-pentanone	11.090	58	268992	216.24	ug/L	93
82) toluene	11.383	92	324122	45.60	ug/L	99
83) 3-methyl-1-butanol	11.085	55	136643	1059.53	ug/L	100
84) trans-1,3-dichloropropene	11.577	75	204861	48.46	ug/L	99
85) ethyl methacrylate	11.551	69	177619	45.77	ug/L	99
86) 1,1,2-trichloroethane	11.807	83	108111	47.59	ug/L	97
87) 2-hexanone	11.969	58	257509	201.29	ug/L	98
89) tetrachloroethene	11.958	164	139659	46.97	ug/L	98
90) 1,3-dichloropropane	12.000	76	199001	43.62	ug/L	99
91) butyl acetate	12.047	56	98518	46.75	ug/L	96
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	128704	493.58	ug/L	98
93) dibromochloromethane	12.262	129	148245	52.01	ug/L	99
94) 1,2-dibromoethane	12.429	107	138419	46.21	ug/L	99
95) n-butyl ether	12.879	57	654400	48.08	ug/L	100
96) chlorobenzene	12.937	112	375253	46.52	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.005	131	137918	48.04	ug/L	95
98) ethylbenzene	12.999	91	625914	46.54	ug/L	100
99) m,p-xylene	13.130	106	486450	92.26	ug/L	94
100) o-xylene	13.569	106	250055	47.38	ug/L	99
101) styrene	13.585	104	414997	44.97	ug/L	96
102) bromoform	13.841	173	106354	43.84	ug/L	98
104) isopropylbenzene	13.951	105	665730	45.96	ug/L	100
106) cyclohexanone	14.108	55	46736	65.53	ug/L	99
107) bromobenzene	14.380	156	188529	44.90	ug/L	98
108) 1,1,2,2-tetrachloroethane	14.265	83	180375	45.40	ug/L	100
109) trans-1,4-dichloro-2-b...	14.302	53	29417	34.70	ug/L	98
110) 1,2,3-trichloropropane	14.364	110	45884	46.13	ug/L	99
111) n-propylbenzene	14.411	91	783876	47.00	ug/L	99
113) 2-chlorotoluene	14.563	126	169705	46.68	ug/L	96
114) 4-chlorotoluene	14.689	91	483131	46.66	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	546311	45.98	ug/L	99
116) tert-butylbenzene	14.966	119	522151	47.64	ug/L	98
117) pentachloroethane	15.044	167	116196	50.00	ug/L	98
118) 1,2,4-trimethylbenzene	15.023	105	578173	47.83	ug/L	100
119) sec-butylbenzene	15.206	105	787496	48.42	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	361733	46.09	ug/L	99
121) p-isopropyltoluene	15.353	119	684075	48.35	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	357566	46.77	ug/L	100
123) benzyl chloride	15.609	91	324145	47.92	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	359665	47.22	ug/L	99
126) n-butylbenzene	15.813	92	366313	48.89	ug/L	98
128) 1,2-dibromo-3-chlorop...	16.770	75	33208	48.95	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.969	180	335273	49.81	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69396.D

Acq On : 17 Feb 2017 2:38 pm

Operator : Hueanht

Sample : jc37230-5ms

Misc : MS12612,V4B2856,5,,,1

ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 20 16:59:33 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

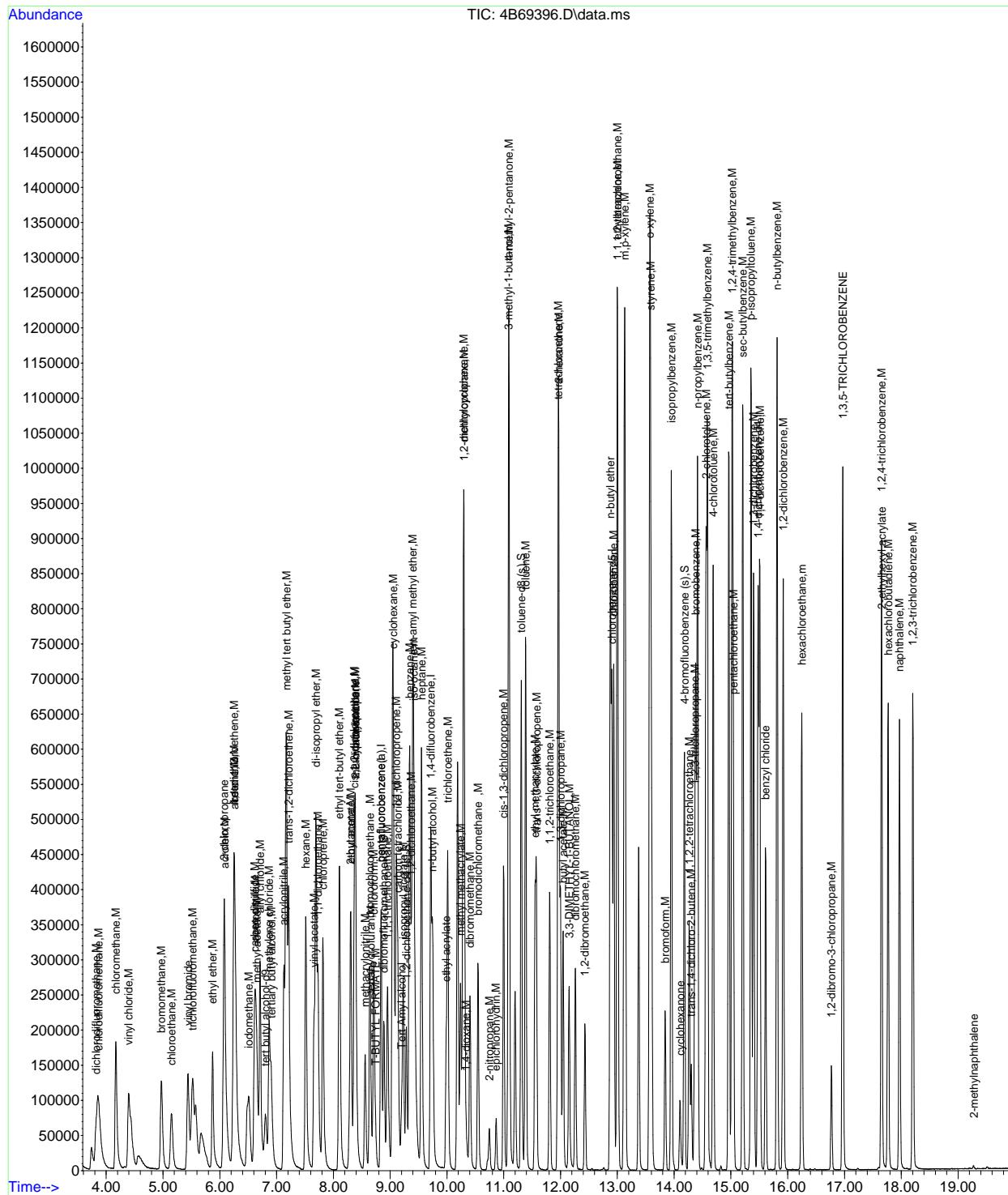
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
130) 1,2,4-trichlorobenzene	17.654	180	277516	46.32	ug/L	97
131) hexachlorobutadiene	17.769	225	156181	44.43	ug/L	99
132) naphthalene	17.968	128	496925	45.87	ug/L	100
133) 1,2,3-trichlorobenzene	18.203	180	234796	44.52	ug/L	99
134) hexachloroethane	16.247	201	129527	48.94	ug/L	99
135) 2-ethylhexyl acrylate	17.659	70	18343	11.46	ug/L	92
136) 2-methylnaphthalene	19.276	142	2481	0.95	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57
Data File : 4B69396.D
Acq On : 17 Feb 2017 2:38 pm
Operator : Hueanht
Sample : jc37230-5ms
Misc : MS12612,V4B2856,5,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 20 16:59:33 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\

Data File : 4B69398.D

Acq On : 17 Feb 2017 3:35 pm

Operator : Hueanht

Sample : jc37230-4dup

Misc : MS12612,V4B2856,5,,,1

ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 20 16:59:57 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

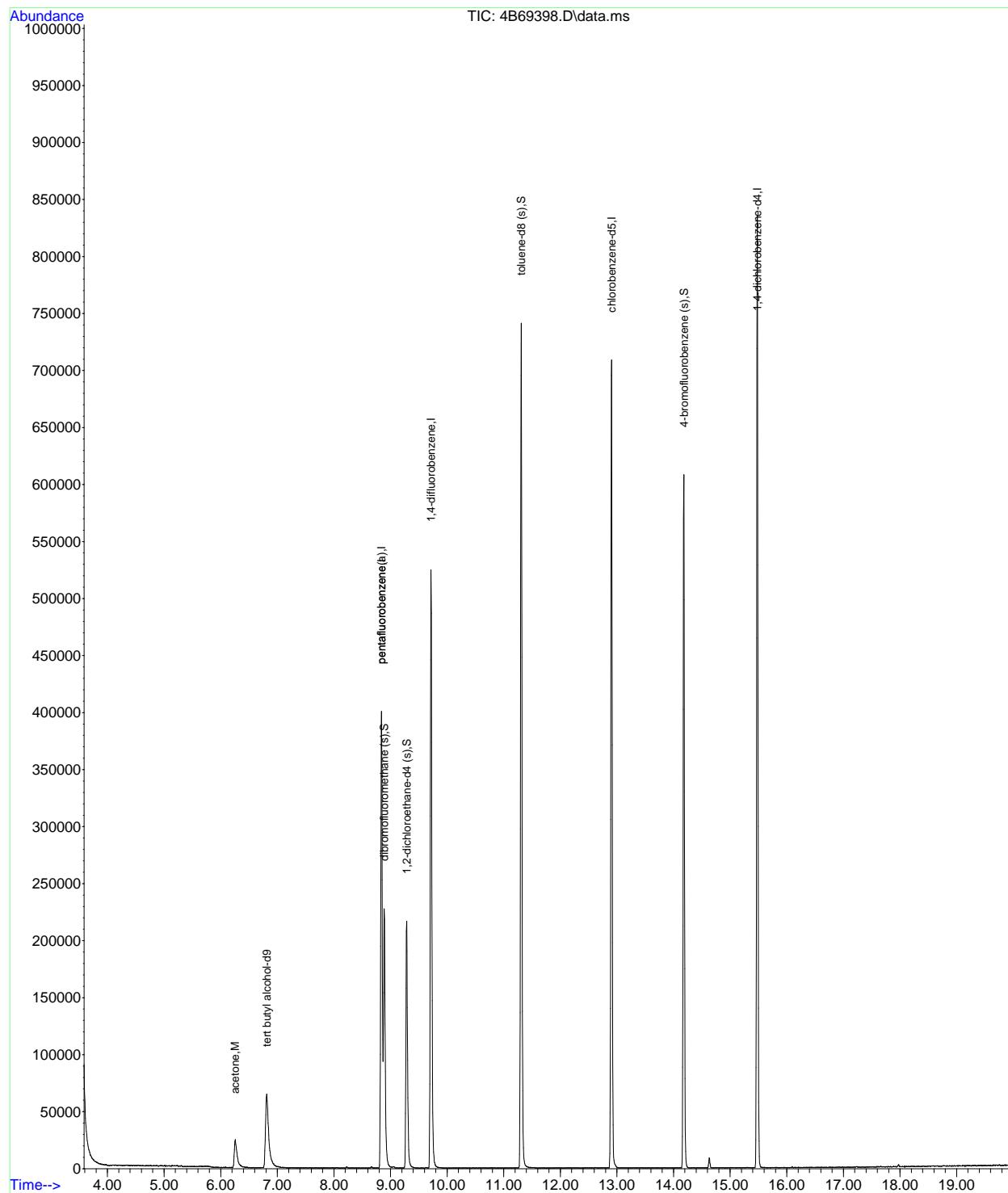
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	145533	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	307453	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	422938	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	396513	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	223512	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	307453	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	135033	52.01	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	104.02%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	151201	53.76	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	107.52%		
80) toluene-d8 (s)	11.310	98	487354	49.89	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	99.78%		
105) 4-bromofluorobenzene (s)	14.181	95	187353	51.19	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	102.38%		
Target Compounds						
23) acetone	6.252	58	16182	47.96	ug/L	93

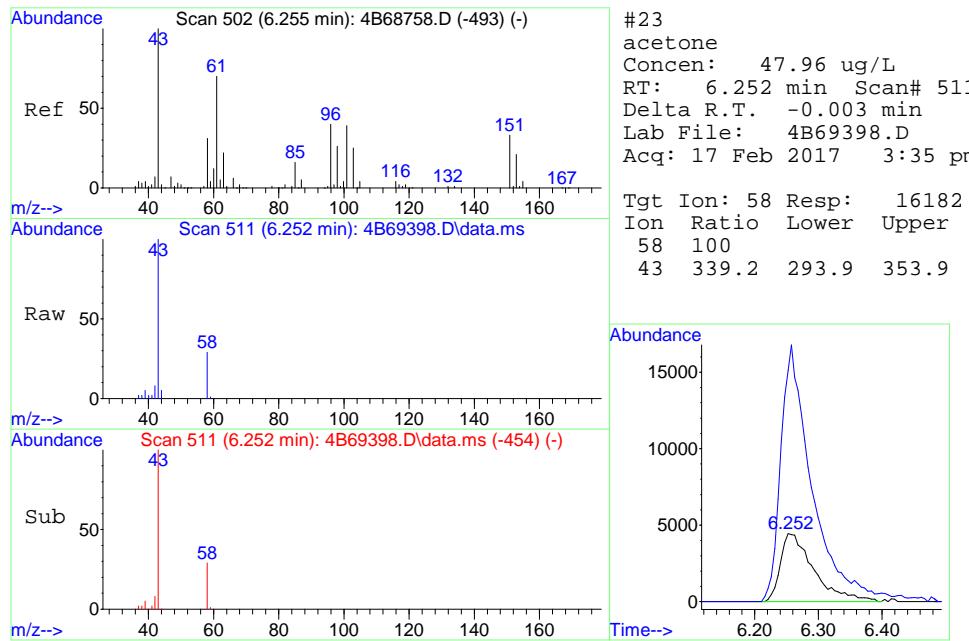
(#= qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69398.D
 Acq On : 17 Feb 2017 3:35 pm
 Operator : Hueanh
 Sample : jc37230-4dup
 Misc : MS12612,V4B2856,5,,,,1
 ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 20 16:59:57 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

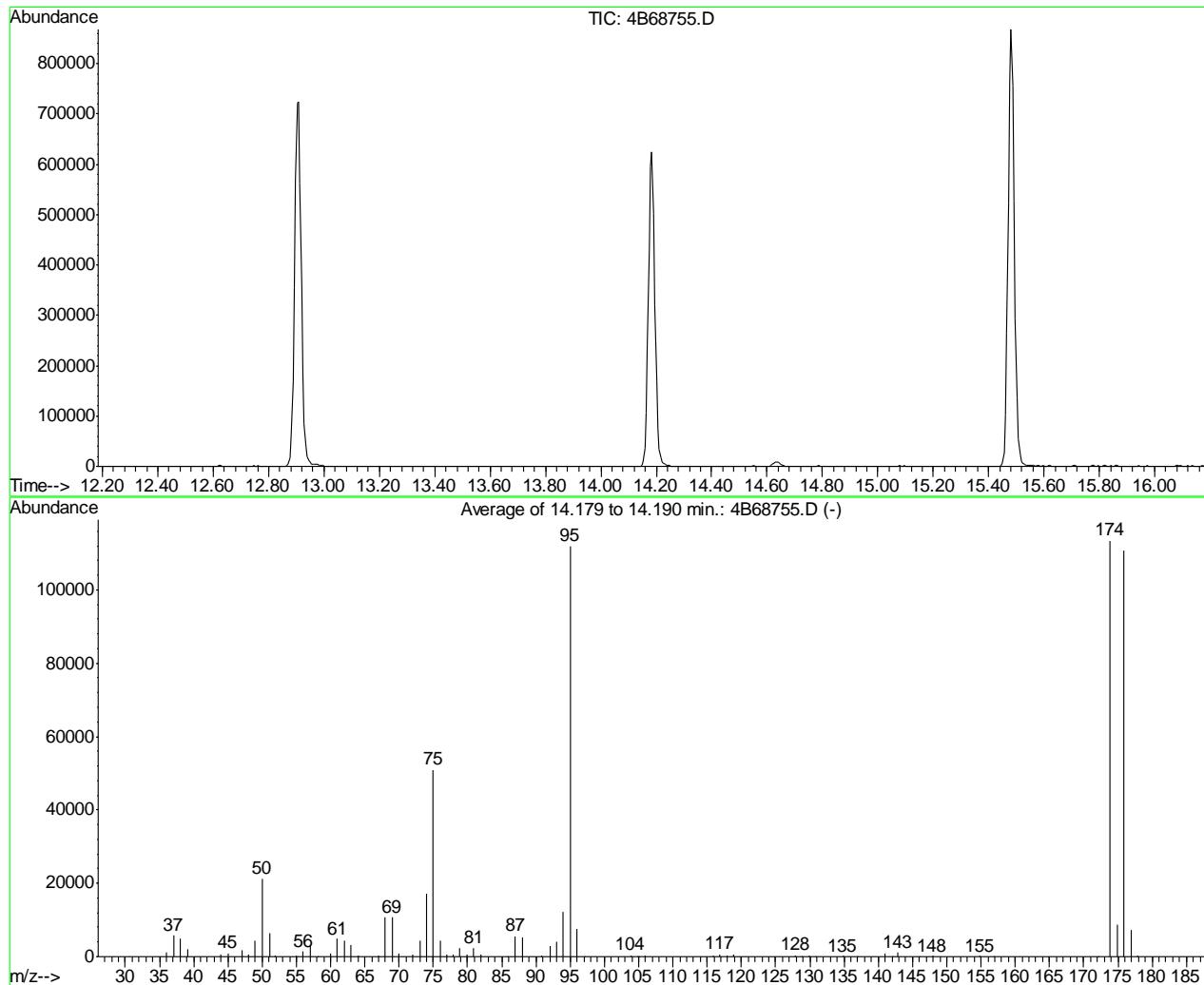




SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\4B68755.D Vial: 2
 Acq On : 27 Jan 2017 11:04 am Operator: Hueanh
 Sample : bfb Inst : MS4B
 Misc : MS11826,V4B2825,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2017, 2018, 2019; Background Corrected with Scan 2008

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.0	21258	PASS
75	95	30	60	45.5	50882	PASS
95	95	100	100	100.0	111944	PASS
96	95	5	9	6.6	7433	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.4	113464	PASS
175	174	5	9	7.6	8642	PASS
176	174	95	101	97.6	110720	PASS
177	176	5	9	6.5	7242	PASS

Average of 14.179 to 14.190 min.: 4B68755.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1163	51.95	218	68.00	10624	79.90	683
37.05	5708	55.05	250	69.00	10723	80.90	2378
38.00	4980	56.00	1435	70.00	766	81.90	503
39.05	1922	57.00	2865	72.00	657	85.90	122
44.00	481	58.10	61	73.00	4427	87.00	5614
45.00	978	60.00	934	74.00	17055	88.00	5268
47.00	1698	61.00	4935	75.00	50882	90.90	349
48.00	658	62.00	4464	76.00	4302	92.00	2780
49.00	4502	63.00	3200	77.00	687	93.00	4217
50.00	21258	64.00	286	77.85	466	94.00	12180
51.05	6275	67.00	353	78.90	2377	95.00	111944

Average of 14.179 to 14.190 min.: 4B68755.D

bfb

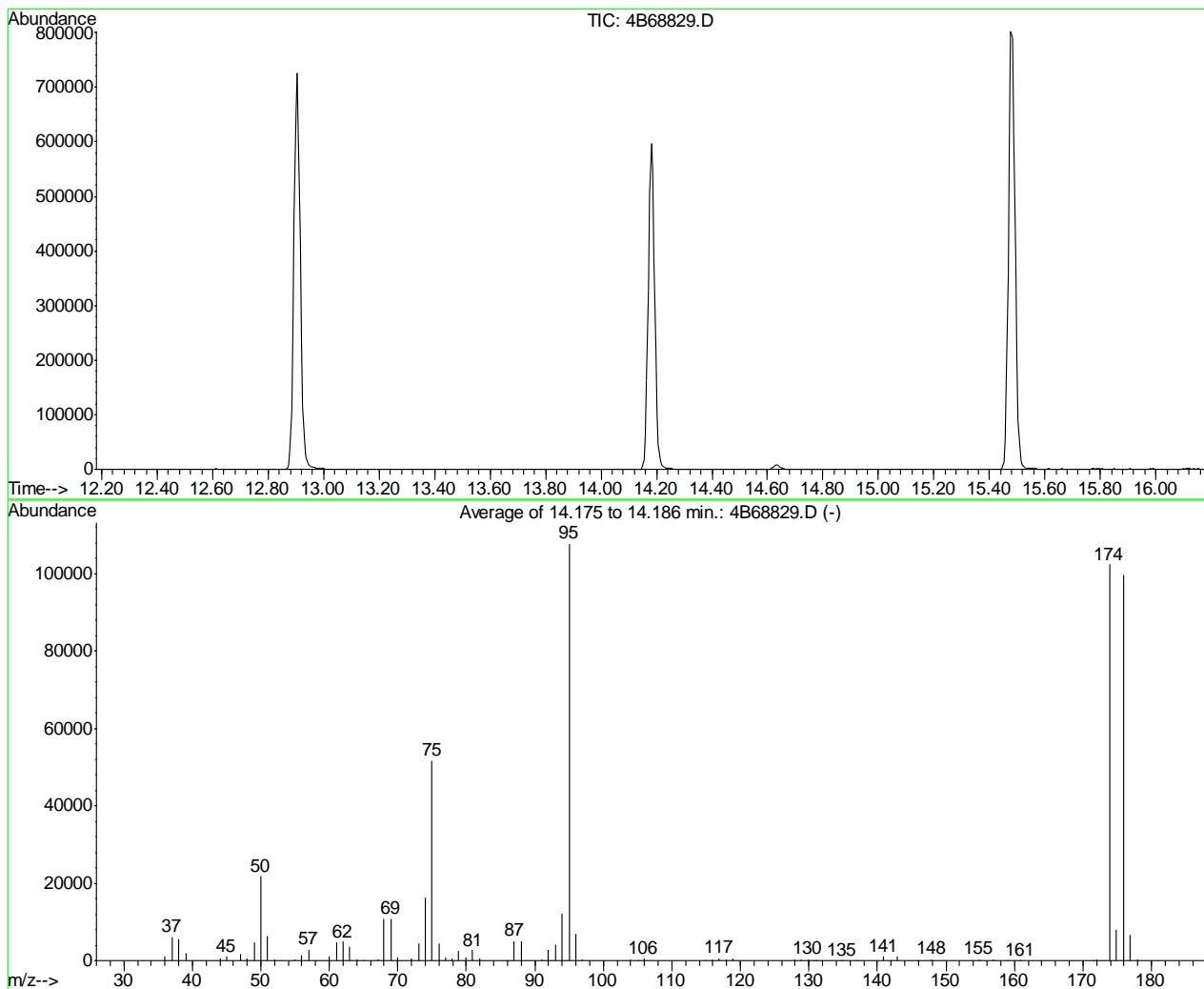
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.00	7433	128.90	140	156.90	68		
97.00	154	129.85	325	172.05	120		
103.90	393	130.80	55	173.90	113464		
104.80	76	134.85	175	174.95	8642		
105.00	67	136.90	76	175.90	110720		
105.90	383	140.90	995	176.90	7242		
115.90	369	142.00	62	177.85	195		
116.90	634	142.90	1042				
117.95	362	145.90	73				
118.90	512	147.95	287				
127.90	394	154.90	290				

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\4B68829.D Vial: 1
 Acq On : 30 Jan 2017 10:20 pm Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12037,V4B2828,W,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825A.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2131, 2132, 2133; Background Corrected with Scan 2122

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.2	21741	PASS
75	95	30	60	47.9	51608	PASS
95	95	100	100	100.0	107738	PASS
96	95	5	9	6.5	6993	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.0	102328	PASS
175	174	5	9	7.8	7984	PASS
176	174	95	101	97.4	99685	PASS
177	176	5	9	6.7	6688	PASS

Average of 14.175 to 14.186 min.: 4B68829.D

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1213	51.00	6308	65.00	53	77.95	464
37.00	6120	52.00	264	67.10	204	78.90	2553
38.05	5413	55.05	311	68.00	10694	79.95	740
39.05	2072	56.00	1515	69.00	10866	80.90	2662
39.95	43	57.00	2845	70.00	795	81.90	529
44.00	608	58.10	67	72.00	562	85.95	118
45.00	1019	60.00	979	73.00	4414	87.00	4972
47.05	1783	61.00	4720	74.00	16412	88.00	4893
47.95	664	62.00	4942	75.00	51608	91.00	344
49.00	4652	63.00	3616	76.00	4382	92.00	2870
50.00	21741	64.05	411	77.00	741	93.00	4120

Average of 14.175 to 14.186 min.: 4B68829.D

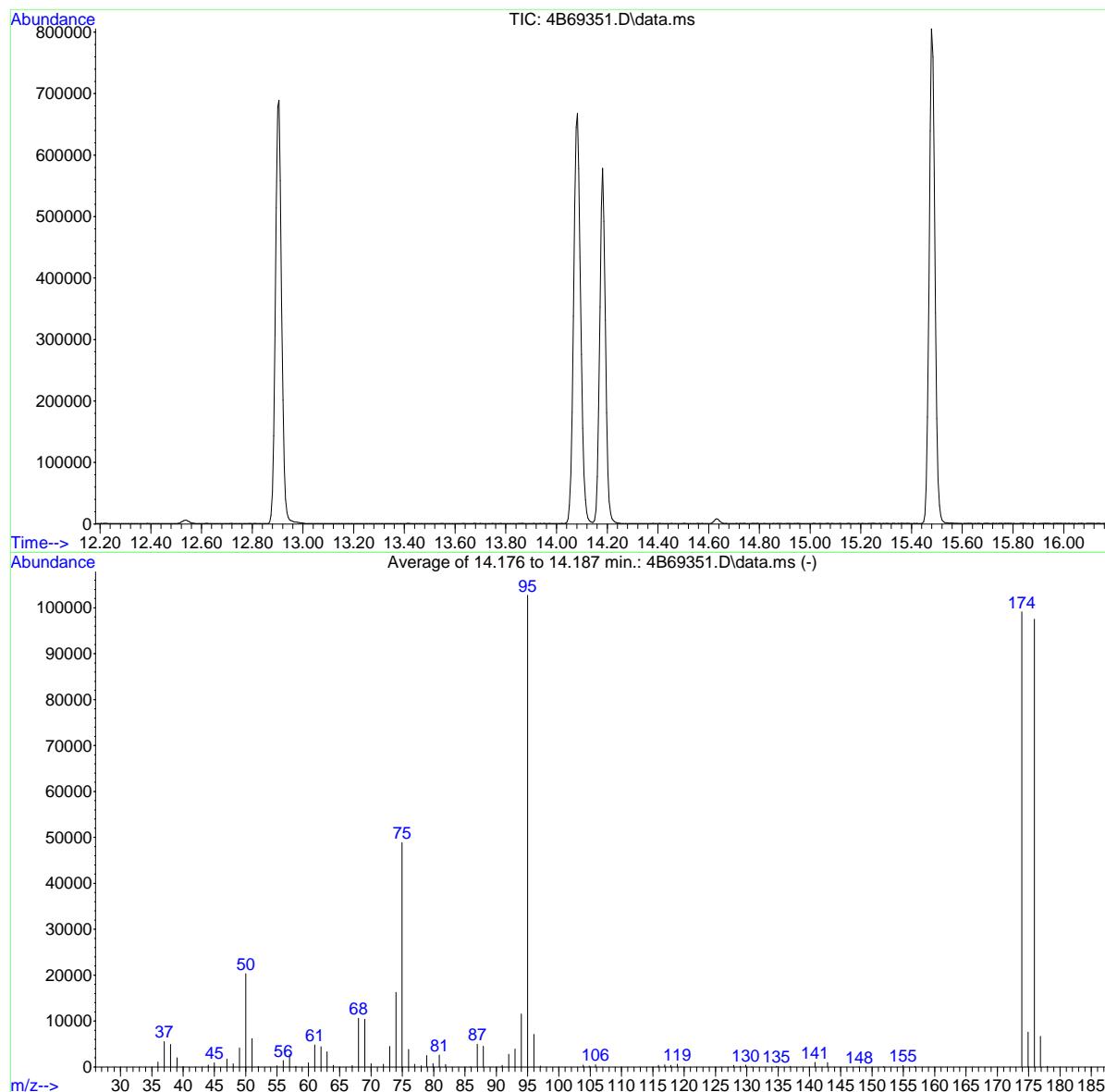
bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.00	12183	118.90	506	145.85	105	176.90	6688
95.00	107738	127.90	344	147.90	296	177.95	196
96.00	6993	128.85	179	154.90	285		
96.95	208	129.90	365	156.90	222		
103.90	402	130.80	52	158.90	55		
104.95	105	131.00	50	160.90	52		
105.90	447	134.85	135	171.60	129		
114.90	62	136.90	137	172.10	152		
115.90	407	140.90	1035	173.90	102328		
116.90	636	141.90	61	174.90	7984		
117.90	353	142.90	1016	175.90	99685		

SW-846 Method 8260
 Data File : C:\msdchem\1\data\4B\v4b2855\4B69351.D Vial: 1
 Acq On : 16 Feb 2017 9:12 am Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12524,V4B2855,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	20285	PASS
75	95	30	60	47.5	48836	PASS
95	95	100	100	100.0	102712	PASS
96	95	5	9	6.9	7127	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	96.5	99093	PASS
175	174	5	9	7.6	7577	PASS
176	174	95	101	98.4	97499	PASS
177	176	5	9	6.8	6660	PASS

Average of 14.176 to 14.187 min.: 4B69351.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1088	51.00	6155	67.00	310	78.90	2489
37.00	5531	52.00	75	68.00	10621	79.90	746
38.00	4921	55.00	249	69.00	10378	80.90	2592
39.05	2027	56.00	1389	70.00	759	81.90	543
40.00	94	57.00	2716	72.00	578	85.90	52
44.00	391	58.00	113	73.00	4467	86.95	4954
45.00	909	60.00	909	74.00	16266	87.95	4515
47.00	1714	61.00	4786	74.95	48836	90.95	336
48.00	688	62.00	4412	76.00	3795	92.00	2764
49.00	4127	63.00	3339	76.95	597	93.00	3942
50.00	20285	64.00	334	78.00	231	94.00	11547

Average of 14.176 to 14.187 min.: 4B69351.D\data.ms

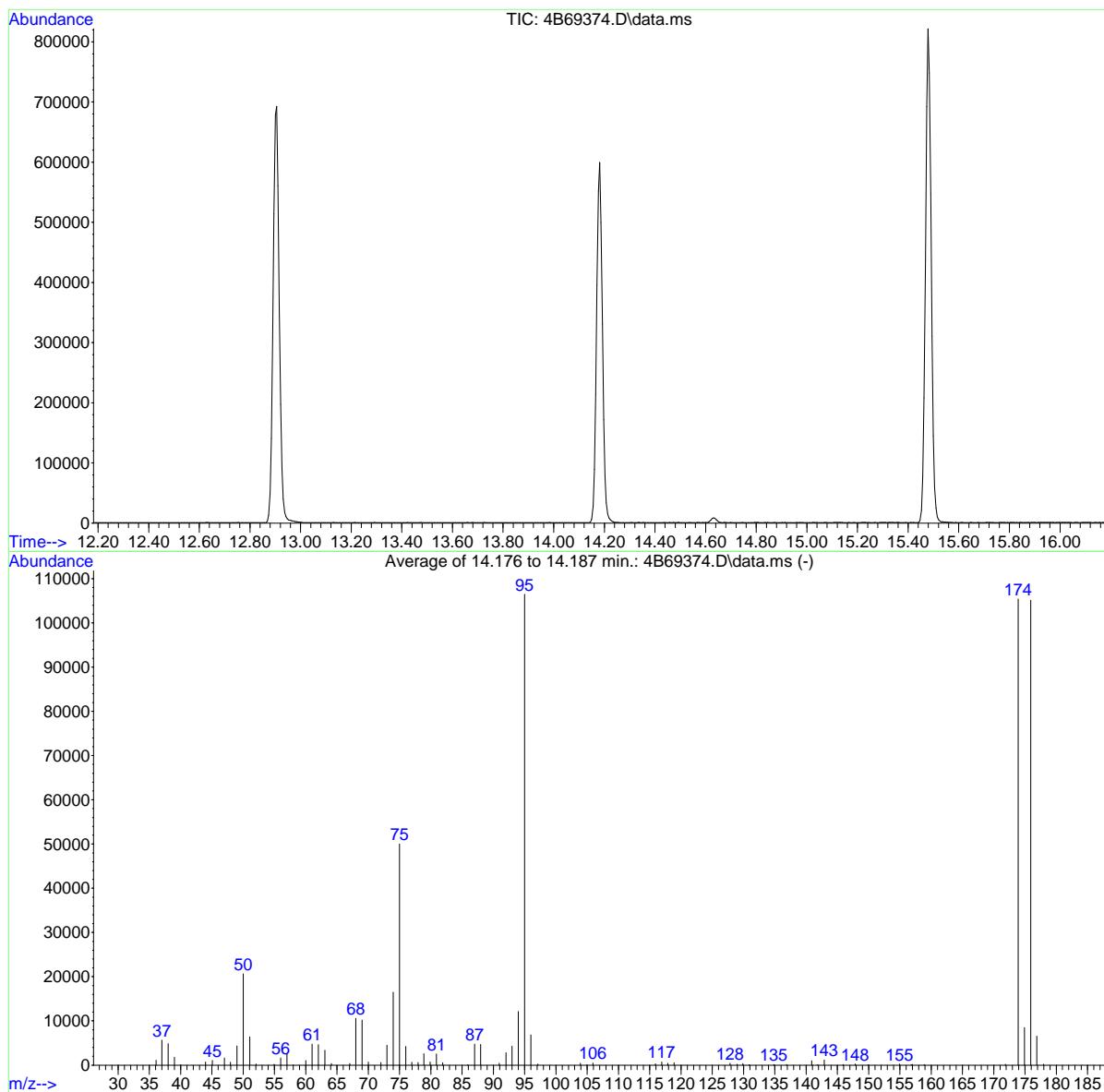
bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	102712	128.95	124	156.85	123		
96.00	7127	129.85	413	173.90	99093		
97.05	209	130.80	51	174.90	7577		
103.90	417	134.75	124	175.90	97499		
104.85	190	135.00	73	176.90	6660		
105.85	473	136.90	123	177.95	167		
115.90	387	140.90	1008				
116.90	469	142.90	968				
117.85	338	147.95	47				
118.90	575	151.80	62				
127.90	354	154.95	298				

SW-846 Method 8260
 Data File : C:\msdchem\1\data\4B\v4b2855\4B69374.D Vial: 24
 Acq On : 16 Feb 2017 8:21 pm Operator: Hueanht
 Sample : bfb2 Inst : MS4B
 Misc : MS12539,V4B2855,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.4	20659	PASS
75	95	30	60	47.0	50043	PASS
95	95	100	100	100.0	106469	PASS
96	95	5	9	6.4	6858	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	99.0	105408	PASS
175	174	5	9	8.1	8505	PASS
176	174	95	101	99.7	105141	PASS
177	176	5	9	6.2	6562	PASS

Average of 14.176 to 14.187 min.: 4B69374.D\data.ms

bfb2

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1090	51.05	6372	67.05	346	78.90	2613
37.00	5639	52.05	246	68.00	10625	79.90	727
38.00	4850	54.95	229	69.00	10199	80.90	2532
39.00	1805	56.00	1597	70.00	729	81.90	522
39.95	23	57.00	2563	72.00	572	85.90	106
44.00	687	58.00	58	73.00	4528	87.00	4725
45.05	1039	60.00	1034	74.00	16500	87.95	4685
47.00	1649	61.00	4735	75.00	50043	90.95	452
47.95	679	62.00	4651	76.00	4218	92.00	2835
49.00	4366	63.05	3376	76.95	657	93.00	4273
50.00	20659	64.10	364	77.95	619	94.00	12144

Average of 14.176 to 14.187 min.: 4B69374.D\data.ms

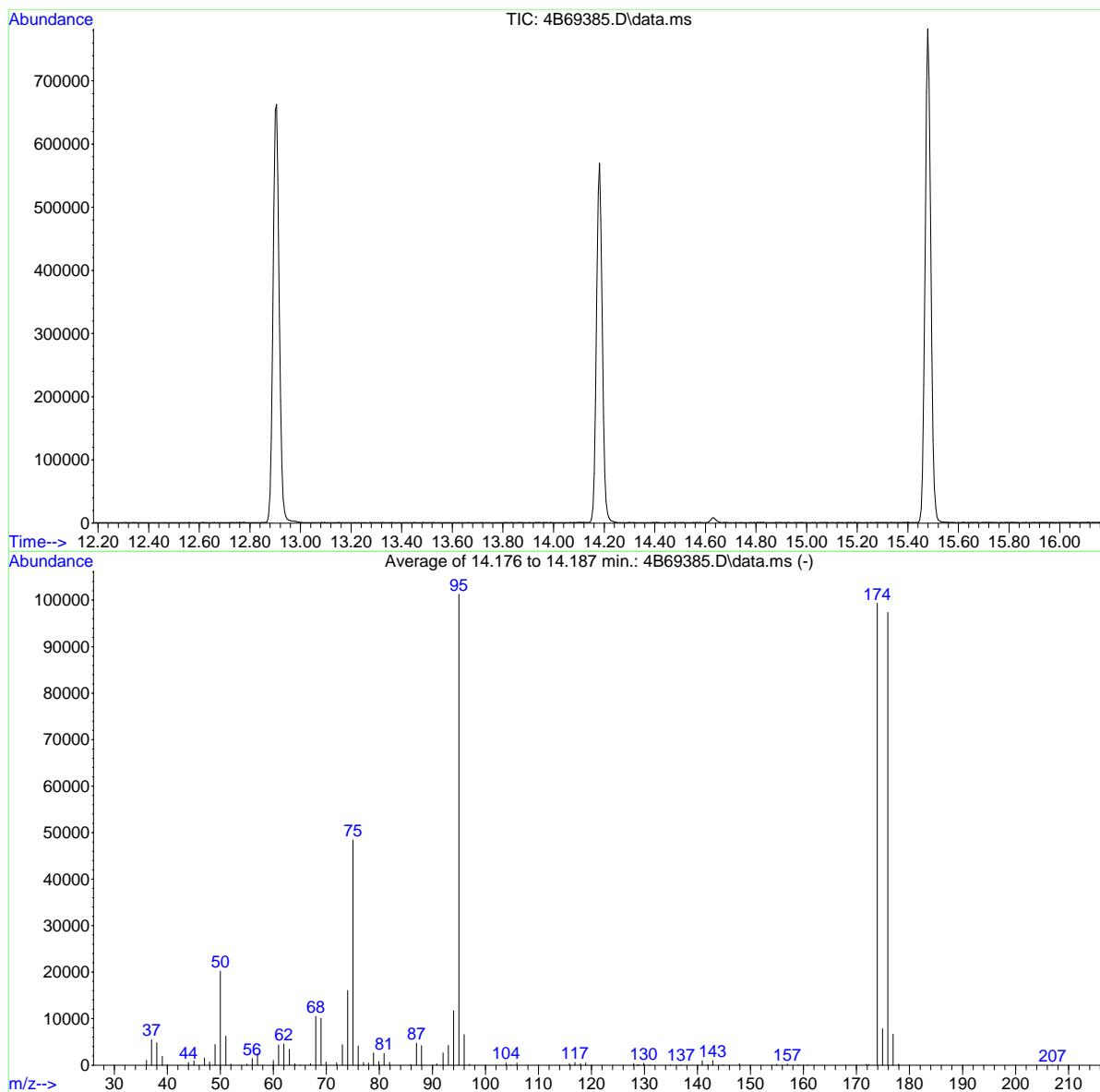
bfb2

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	106469	128.95	178	154.95	250		
96.00	6858	129.90	373	156.80	75		
97.10	233	130.90	73	156.95	176		
103.90	428	134.85	141	158.90	168		
104.90	57	136.90	138	171.85	214		
105.90	467	140.90	986	173.90	105408		
115.90	308	141.85	112	174.90	8505		
116.90	730	142.90	1159	175.90	105141		
117.90	416	145.90	151	176.90	6562		
118.90	523	147.85	286	177.95	183		
127.85	412	149.90	60				

SW-846 Method 8260
 Data File : C:\msdchem\1\data\4B\V4B2856-57\4B69385.D Vial: 3
 Acq On : 17 Feb 2017 9:14 am Operator: Hueanht
 Sample : bfb Inst : MS4B
 Misc : MS12539,V4B2856,5,,,1 Multiplr: 1.00
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2026, 2027, 2028; Background Corrected with Scan 2017

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.0	20253	PASS
75	95	30	60	47.8	48413	PASS
95	95	100	100	100.0	101253	PASS
96	95	5	9	6.5	6563	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.1	99315	PASS
175	174	5	9	7.8	7791	PASS
176	174	95	101	98.0	97355	PASS
177	176	5	9	6.8	6657	PASS

Average of 14.176 to 14.187 min.: 4B69385.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1072	51.05	6234	67.00	372	78.90	2635
37.00	5500	52.00	242	68.00	10490	79.90	761
38.00	4853	55.00	230	69.00	10054	80.90	2523
39.05	1940	56.00	1414	69.95	673	81.90	549
39.95	45	57.00	2489	71.95	536	85.90	124
44.00	556	60.00	1006	73.00	4411	87.00	4740
45.00	938	61.00	4379	74.00	16093	87.95	4184
47.00	1542	62.00	4566	75.00	48413	90.85	317
47.95	662	63.00	3366	76.00	4127	92.00	2636
49.00	4436	64.05	303	77.00	584	93.00	4235
50.00	20253	65.10	55	77.95	443	94.00	11711

Average of 14.176 to 14.187 min.: 4B69385.D\data.ms

bfb

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	101253	128.70	60	154.95	212	207.00	55
96.00	6563	128.90	77	156.95	238		
97.00	206	129.85	382	159.00	66		
103.90	445	131.00	51	160.80	57		
104.80	51	134.90	63	171.90	192		
105.95	438	136.90	88	172.30	133		
115.85	344	140.90	932	173.90	99315		
116.90	571	141.95	115	174.90	7791		
117.90	371	142.90	1020	175.90	97355		
118.90	507	144.90	59	176.90	6657		
127.95	346	147.90	291	177.95	253		

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanh
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	151706	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	315614	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	430567	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	404913	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	234506	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132621	49.29	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.58%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	145359	50.83	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.66%	
80) toluene-d8 (s)	11.31	98	498921	50.09	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 100.18%	
105) 4-bromofluorobenzene (s)	14.18	95	192724	50.34	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.68%	

Target Compounds

				QValue
2) tertiary butyl alcohol	6.92	59	3700	9.66 ug/L 88
7) chlorodifluoromethane	3.86	51	10300	2.02 ug/L 95
8) dichlorodifluoromethane	3.82	85	8651	1.90 ug/L 93
10) chloromethane	4.18	52	4879	2.19 ug/L 90
11) vinyl chloride	4.39	62	11449	1.98 ug/L 96
12) bromomethane	4.99	94	6211	2.34 ug/L 96
13) chloroethane	5.16	64	5113	1.98 ug/L 95
14) vinyl bromide	5.46	106	7316	1.98 ug/L # 93
15) trichlorofluoromethane	5.52	101	9850	1.96 ug/L 97
16) 1,3-butadiene	4.47	54	7191	1.52 ug/L # 89
19) ethyl ether	5.88	74	3510	1.92 ug/L 97
20) 2-chloropropane	6.07	39	2497	2.08 ug/L 83
21) acrolein	6.09	56	14242	20.75 ug/L 100
22) 1,1-dichloroethene	6.26	96	5735	1.93 ug/L 86
23) acetone	6.26	58	3584	10.22 ug/L # 77
24) allyl chloride	6.71	76	6782	2.62 ug/L # 61
25) acetonitrile	6.63	40	3832	20.15 ug/L 87
26) iodomethane	6.49	142	9720	1.65 ug/L 99
27) carbon disulfide	6.61	76	15292	1.59 ug/L 93
28) methylene chloride	6.87	84	6460	1.97 ug/L 92
29) methyl acetate	6.65	74	797	1.67 ug/L # 65
31) methyl tert butyl ether	7.18	73	18288	2.04 ug/L 97
32) trans-1,2-dichloroethene	7.22	96	5797	1.97 ug/L 97
33) di-isopropyl ether	7.69	45	25297	2.10 ug/L 97
34) 2-butanone	8.32	72	3413	9.03 ug/L # 86
35) 1,1-dichloroethane	7.73	63	11675	2.00 ug/L 97
36) chloroprene	7.82	53	9537	1.98 ug/L 97
37) acrylonitrile	7.13	53	12070	9.67 ug/L 98
38) vinyl acetate	7.66	86	1031	1.76 ug/L # 37
39) ethyl tert-butyl ether	8.11	59	21053	2.01 ug/L 98
40) ethyl acetate	8.31	45	934	1.77 ug/L # 74
41) 2,2-dichloropropane	8.40	77	5744	1.98 ug/L 98
42) cis-1,2-dichloroethene	8.37	96	6551	1.98 ug/L 95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanht
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) methylacrylate	8.40	85	786	1.71	ug/L #	53
44) propionitrile	8.39	54	9345	20.73	ug/L	97
45) bromochloromethane	8.65	128	3191	1.87	ug/L	96
46) tetrahydrofuran	8.66	42	2285	2.09	ug/L	89
47) chloroform	8.71	85	6803	1.98	ug/L	95
48) T-BUTYL FORMATE	8.74	59	5207	1.92	ug/L	86
52) methacrylonitrile	8.56	41	4609	2.05	ug/L	99
53) 1,1,1-trichloroethane	8.95	97	7509	1.79	ug/L	90
54) cyclohexane	9.06	84	6917	1.59	ug/L	96
57) epichlorohydrin	10.87	57	3333	9.95	ug/L	93
58) n-butyl alcohol	9.75	56	9030	97.96	ug/L	92
59) carbon tetrachloride	9.14	117	6822	1.85	ug/L	98
60) 1,1-dichloropropene	9.11	75	7865	1.91	ug/L	97
61) hexane	7.52	57	10609	2.02	ug/L	97
62) Tert Amyl alcohol	9.21	73	1657	11.53	ug/L	96
63) benzene	9.35	78	23812	2.01	ug/L	93
64) iso-octane	9.42	57	27719	2.05	ug/L	96
65) tert-amyl methyl ether	9.40	87	3911	2.01	ug/L #	81
66) heptane	9.56	57	6740	2.11	ug/L	91
67) isopropyl acetate	9.23	61	2534	1.95	ug/L #	74
68) 1,2-dichloroethane	9.37	62	8171	2.09	ug/L	99
69) trichloroethene	10.02	95	6034	1.95	ug/L	96
71) ethyl acrylate	9.99	55	7406	1.88	ug/L	99
72) 2-nitropropane	10.75	41	2322	1.91	ug/L #	81
73) 2-chloroethyl vinyl ether	10.77	63	20043	9.91	ug/L	97
74) methyl methacrylate	10.25	100	1607	1.83	ug/L #	83
75) 1,2-dichloropropane	10.30	63	7196	2.13	ug/L	95
76) dibromomethane	10.41	93	3845	1.97	ug/L	86
77) methylcyclohexane	10.30	83	11072	2.06	ug/L	96
78) bromodichloromethane	10.55	83	7814	1.90	ug/L	97
79) cis-1,3-dichloropropene	11.00	75	10600	1.91	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	13642	10.49	ug/L	98
82) toluene	11.39	92	14726	1.96	ug/L	99
83) 3-methyl-1-butanol	11.09	55	5766	42.27	ug/L	86
84) trans-1,3-dichloropropene	11.57	75	8639	1.85	ug/L	92
85) ethyl methacrylate	11.56	69	7935	1.87	ug/L	99
86) 1,1,2-trichloroethane	11.81	83	4867	1.96	ug/L	97
87) 2-hexanone	11.97	58	14579	10.59	ug/L	93
89) tetrachloroethene	11.96	164	6298	1.99	ug/L	91
90) 1,3-dichloropropane	12.00	76	10107	2.09	ug/L	91
91) butyl acetate	12.05	56	4485	1.92	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.17	57	5680	20.24	ug/L	93
93) dibromochloromethane	12.26	129	5756	1.70	ug/L	94
94) 1,2-dibromoethane	12.43	107	6368	1.92	ug/L	91
95) n-butyl ether	12.88	57	27314	1.87	ug/L #	72
96) chlorobenzene	12.94	112	17066	1.96	ug/L	93
97) 1,1,1,2-tetrachloroethane	13.01	131	6007	1.89	ug/L	94
98) ethylbenzene	13.00	91	29195	2.02	ug/L	95
99) m,p-xylene	13.13	106	22903	3.97	ug/L	90
100) o-xylene	13.57	106	11423	1.92	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68756.D
 Acq On : 27 Jan 2017 11:39 am
 Operator : Hueanht
 Sample : ic2825-2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

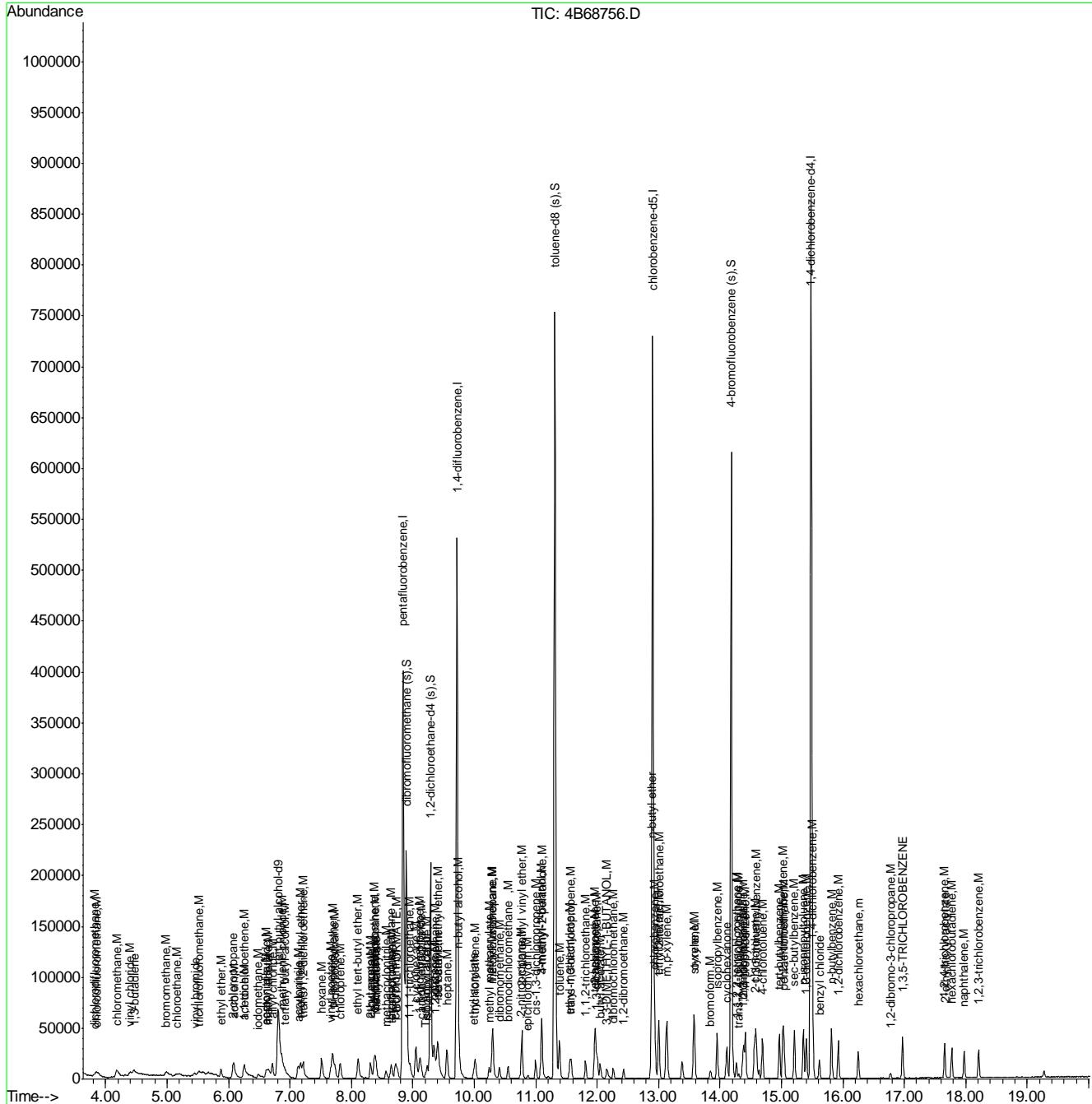
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
101) styrene	13.59	104	19293	1.94	ug/L	94
102) bromoform	13.84	173	3637	1.47	ug/L	91
104) isopropylbenzene	13.95	105	28811	1.94	ug/L	98
106) cyclohexanone	14.11	55	15354	21.65	ug/L	98
107) bromobenzene	14.39	156	8650	2.01	ug/L	89
108) 1,1,2,2-tetrachloroethane	14.27	83	8161	1.96	ug/L	91
109) trans-1,4-dichloro-2-buten	14.30	53	1121	1.31	ug/L	80
110) 1,2,3-trichloropropane	14.37	110	2067	1.98	ug/L	78
111) n-propylbenzene	14.41	91	35778	2.04	ug/L	98
113) 2-chlorotoluene	14.57	126	7470	1.96	ug/L	99
114) 4-chlorotoluene	14.69	91	21916	2.02	ug/L	97
115) 1,3,5-trimethylbenzene	14.59	105	25354	2.05	ug/L	96
116) tert-butylbenzene	14.97	119	22526	1.97	ug/L	98
117) pentachloroethane	15.04	167	4841	1.87	ug/L	88
118) 1,2,4-trimethylbenzene	15.03	105	25808	2.02	ug/L	98
119) sec-butylbenzene	15.21	105	33551	1.95	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	16782	2.05	ug/L	97
121) p-isopropyltoluene	15.36	119	28756	1.92	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	16078	2.00	ug/L	96
123) benzyl chloride	15.62	91	13212	1.74	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	16347	2.04	ug/L	97
126) n-butylbenzene	15.82	92	15021	1.89	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	1186	1.67	ug/L	90
129) 1,3,5-TRICHLOROBENZENE	16.97	180	13710	1.91	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	11503	1.80	ug/L	90
131) hexachlorobutadiene	17.77	225	7235	1.99	ug/L	90
132) naphthalene	17.97	128	21157	1.85	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	10427	1.86	ug/L	95
134) hexachloroethane	16.25	201	5024	1.74	ug/L	90
135) 2-ethylhexyl acrylate	17.67	70	350	0.26	ug/L #	57

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68756.D
Acq On : 27 Jan 2017 11:39 am
Operator : Hueanht
Sample : ic2825-2
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 27 17:27:54 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanh
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	136918	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	299326	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	416382	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	393778	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	231659	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	127522	49.97	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 99.94%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	136960	50.50	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.00%	
80) toluene-d8 (s)	11.31	98	479936	49.82	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.64%	
105) 4-bromofluorobenzene (s)	14.18	95	188700	49.90	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.80%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.91	59	35090	101.52 ug/L 98
3) 1,4-dioxane	10.35	88	15588	531.77 ug/L 98
7) chlorodifluoromethane	3.87	51	96818	20.01 ug/L 99
8) dichlorodifluoromethane	3.83	85	84479	19.59 ug/L 95
10) chloromethane	4.17	52	41769	19.77 ug/L 93
11) vinyl chloride	4.39	62	110824	20.17 ug/L 98
12) bromomethane	4.98	94	49953	19.85 ug/L 97
13) chloroethane	5.16	64	50388	20.59 ug/L 99
14) vinyl bromide	5.44	106	71228	20.37 ug/L 99
15) trichlorofluoromethane	5.53	101	95844	20.06 ug/L 96
16) 1,3-butadiene	4.47	54	103542	23.08 ug/L 99
19) ethyl ether	5.87	74	36523	21.10 ug/L 95
20) 2-chloropropane	6.08	39	24715	21.67 ug/L 99
21) acrolein	6.09	56	134047	205.96 ug/L 97
22) 1,1-dichloroethene	6.25	96	58993	20.97 ug/L 99
23) acetone	6.26	58	35774	107.56 ug/L 93
24) allyl chloride	6.72	76	43325	17.67 ug/L 92
25) acetonitrile	6.63	40	37742	209.29 ug/L 95
26) iodomethane	6.49	142	120706	21.59 ug/L 99
27) carbon disulfide	6.62	76	199848	21.98 ug/L 99
28) methylene chloride	6.87	84	65112	20.89 ug/L 94
29) methyl acetate	6.65	74	9717	21.49 ug/L 91
31) methyl tert butyl ether	7.18	73	177867	20.89 ug/L 99
32) trans-1,2-dichloroethene	7.22	96	58756	21.02 ug/L 97
33) di-isopropyl ether	7.69	45	240544	21.08 ug/L 98
34) 2-butanone	8.31	72	38368	107.03 ug/L 95
35) 1,1-dichloroethane	7.73	63	117188	21.18 ug/L 99
36) chloroprene	7.82	53	95303	20.86 ug/L 99
37) acrylonitrile	7.13	53	126117	106.55 ug/L 96
38) vinyl acetate	7.66	86	11429	20.62 ug/L 94
39) ethyl tert-butyl ether	8.11	59	206367	20.74 ug/L 99
40) ethyl acetate	8.31	45	10762	21.48 ug/L 93
41) 2,2-dichloropropane	8.39	77	60868	22.18 ug/L 100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanht
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	65747	20.93	ug/L	100
43) methylacrylate	8.39	85	9309	21.41	ug/L	# 92
44) propionitrile	8.39	54	91601	214.29	ug/L	100
45) bromochloromethane	8.65	128	33973	21.00	ug/L	94
46) tetrahydrofuran	8.66	42	21810	21.06	ug/L	99
47) chloroform	8.71	85	68637	21.06	ug/L	99
48) T-BUTYL FORMATE	8.74	59	53397	20.77	ug/L	94
51) freon 113	6.26	151	50695	22.01	ug/L	97
52) methacrylonitrile	8.56	41	43228	20.25	ug/L	99
53) 1,1,1-trichloroethane	8.95	97	83587	21.04	ug/L	98
54) cyclohexane	9.06	84	87935	21.36	ug/L	98
57) epichlorohydrin	10.87	57	33522	103.53	ug/L	95
58) n-butyl alcohol	9.75	56	100512	1127.55	ug/L	98
59) carbon tetrachloride	9.14	117	75301	21.12	ug/L	100
60) 1,1-dichloropropene	9.11	75	84730	21.29	ug/L	98
61) hexane	7.52	57	103470	20.33	ug/L	99
62) Tert Amyl alcohol	9.21	73	15702	112.97	ug/L	97
63) benzene	9.35	78	239692	20.88	ug/L	100
64) iso-octane	9.42	57	265234	20.28	ug/L	99
65) tert-amyl methyl ether	9.40	87	39060	20.75	ug/L	94
66) heptane	9.56	57	61786	19.98	ug/L	98
67) isopropyl acetate	9.23	61	25690	20.48	ug/L	94
68) 1,2-dichloroethane	9.37	62	79009	20.94	ug/L	98
69) trichloroethene	10.02	95	63065	21.13	ug/L	97
71) ethyl acrylate	9.99	55	79431	20.84	ug/L	100
72) 2-nitropropane	10.75	41	24851	21.18	ug/L	# 56
73) 2-chloroethyl vinyl ether	10.77	63	204514	104.61	ug/L	99
74) methyl methacrylate	10.24	100	17504	20.61	ug/L	95
75) 1,2-dichloropropane	10.30	63	68995	21.10	ug/L	98
76) dibromomethane	10.41	93	38898	20.59	ug/L	94
77) methylcyclohexane	10.30	83	106124	20.37	ug/L	98
78) bromodichloromethane	10.55	83	81882	20.58	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	111447	20.75	ug/L	96
81) 4-methyl-2-pentanone	11.09	58	134497	106.96	ug/L	94
82) toluene	11.39	92	150368	20.70	ug/L	97
83) 3-methyl-1-butanol	11.09	55	57451	435.55	ug/L	94
84) trans-1,3-dichloropropene	11.57	75	94532	20.99	ug/L	95
85) ethyl methacrylate	11.55	69	85501	20.81	ug/L	99
86) 1,1,2-trichloroethane	11.81	83	49059	20.48	ug/L	99
87) 2-hexanone	11.97	58	140613	105.65	ug/L	97
89) tetrachloroethene	11.96	164	62023	20.19	ug/L	96
90) 1,3-dichloropropane	12.00	76	94990	20.23	ug/L	98
91) butyl acetate	12.05	56	46251	20.36	ug/L	97
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	56222	206.02	ug/L	98
93) dibromochloromethane	12.26	129	65496	19.83	ug/L	98
94) 1,2-dibromoethane	12.43	107	63815	19.83	ug/L	100
95) n-butyl ether	12.88	57	292462	20.56	ug/L	99
96) chlorobenzene	12.94	112	172031	20.27	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	62377	20.20	ug/L	97
98) ethylbenzene	13.00	91	287271	20.46	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68757.D
 Acq On : 27 Jan 2017 12:07 pm
 Operator : Hueanht
 Sample : ic2825-20
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	224981	40.09	ug/L	96
100) o-xylene	13.57	106	116151	20.10	ug/L	98
101) styrene	13.58	104	196755	20.39	ug/L	99
102) bromoform	13.84	173	45527	18.97	ug/L	97
104) isopropylbenzene	13.95	105	306029	20.91	ug/L	100
106) cyclohexanone	14.11	55	151199	215.81	ug/L	100
107) bromobenzene	14.38	156	86204	20.31	ug/L	99
108) 1,1,2,2-tetrachloroethane	14.27	83	83797	20.42	ug/L	100
109) trans-1,4-dichloro-2-butene	14.30	53	14347	16.92	ug/L	99
110) 1,2,3-trichloropropane	14.37	110	21354	20.72	ug/L	98
111) n-propylbenzene	14.41	91	359218	20.74	ug/L	99
113) 2-chlorotoluene	14.56	126	76584	20.37	ug/L	97
114) 4-chlorotoluene	14.69	91	220148	20.50	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	253652	20.73	ug/L	100
116) tert-butylbenzene	14.96	119	234160	20.72	ug/L	97
117) pentachloroethane	15.04	167	52369	20.51	ug/L	98
118) 1,2,4-trimethylbenzene	15.02	105	264305	20.96	ug/L	99
119) sec-butylbenzene	15.21	105	355365	20.88	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	166651	20.64	ug/L	99
121) p-isopropyltoluene	15.36	119	314684	21.22	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	163199	20.53	ug/L	99
123) benzyl chloride	15.61	91	156423	20.82	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	167009	21.07	ug/L	99
126) n-butylbenzene	15.82	92	167627	21.32	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	14459	20.65	ug/L	95
129) 1,3,5-TRICHLOROBENZENE	16.97	180	154179	21.69	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	136912	21.63	ug/L	97
131) hexachlorobutadiene	17.77	225	77420	21.56	ug/L	98
132) naphthalene	17.97	128	237940	21.09	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	117091	21.13	ug/L	100
134) hexachloroethane	16.25	201	57208	20.11	ug/L	98
135) 2-ethylhexyl acrylate	17.66	70	4324	3.29	ug/L	84
136) 2-methylnaphthalene	19.27	142	53604	19.99	ug/L	99

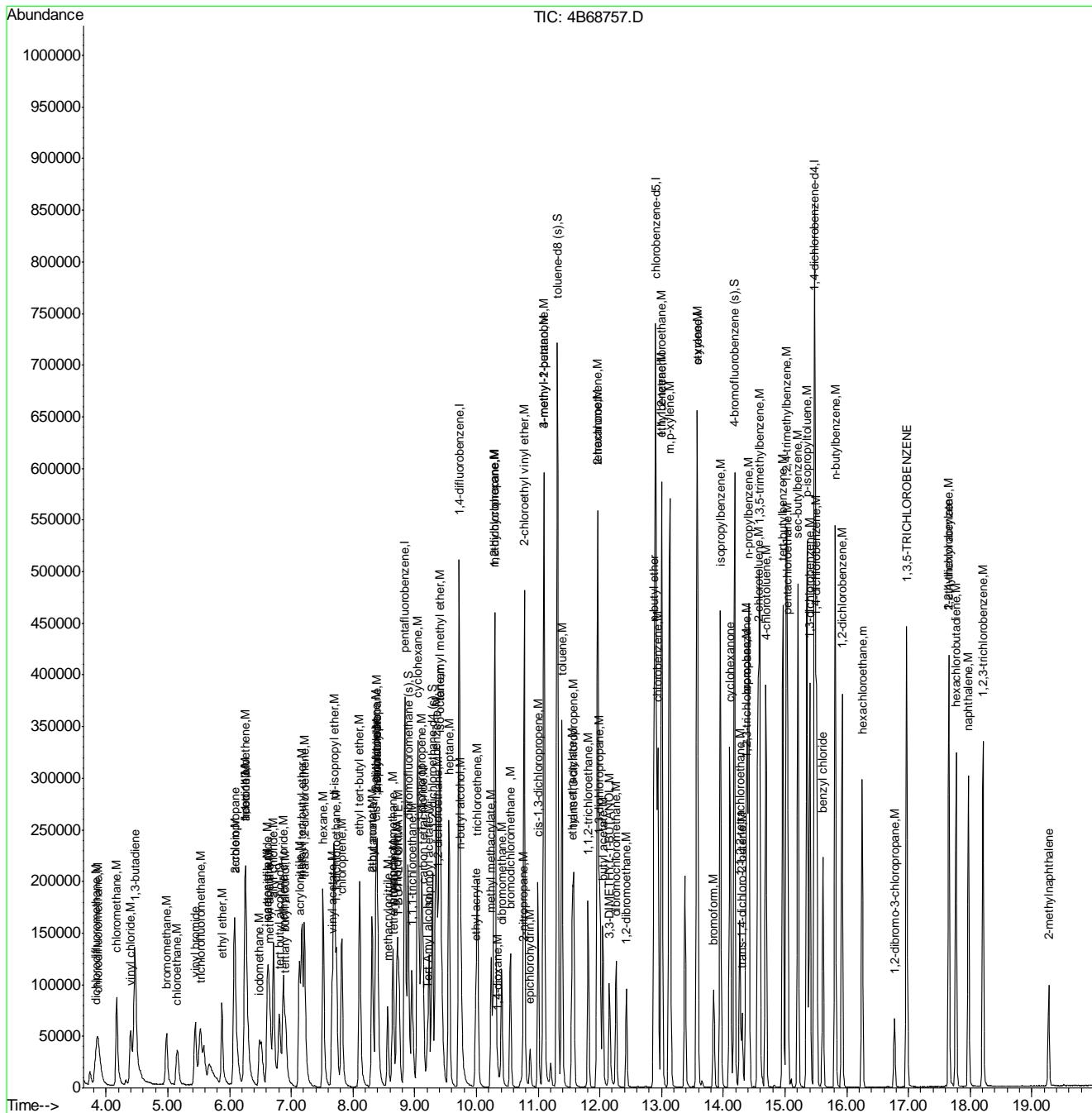
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.2
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68757.D
Acq On : 27 Jan 2017 12:07 pm
Operator : Hueanht
Sample : ic2825-20
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 27 16:16:22 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	120386	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	293509	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	413869	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	382133	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	230264	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	125928	50.32	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 100.64%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	132810	49.94	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 99.88%	
80) toluene-d8 (s)	11.31	98	477998	49.92	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.84%	
105) 4-bromofluorobenzene (s)	14.18	95	186327	49.57	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.14%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.90	59	78467	258.20 ug/L 99
3) 1,4-dioxane	10.34	88	35068	1360.61 ug/L 100
7) chlorodifluoromethane	3.87	51	239254	50.43 ug/L 100
8) dichlorodifluoromethane	3.83	85	221009	52.28 ug/L 100
10) chloromethane	4.17	52	102536	49.50 ug/L 100
11) vinyl chloride	4.40	62	277944	51.58 ug/L 100
12) bromomethane	4.97	94	127909	51.84 ug/L 100
13) chloroethane	5.15	64	126732	52.81 ug/L 100
14) vinyl bromide	5.44	106	176969	51.61 ug/L 100
15) trichlorofluoromethane	5.53	101	245977	52.50 ug/L 100
16) 1,3-butadiene	4.47	54	243695	55.39 ug/L 100
19) ethyl ether	5.88	74	87926	51.81 ug/L 100
20) 2-chloropropane	6.08	39	57618	51.52 ug/L 100
21) acrolein	6.09	56	325959	510.75 ug/L 100
22) 1,1-dichloroethene	6.26	96	143508	52.03 ug/L 100
23) acetone	6.26	58	83352	255.58 ug/L 100
24) allyl chloride	6.71	76	112199	46.65 ug/L 100
25) acetonitrile	6.62	40	91530	517.61 ug/L 100
26) iodomethane	6.51	142	293302	53.51 ug/L 100
27) carbon disulfide	6.62	76	489322	54.88 ug/L 100
28) methylene chloride	6.87	84	156646	51.25 ug/L 100
29) methyl acetate	6.65	74	23889	53.89 ug/L 100
31) methyl tert butyl ether	7.17	73	426217	51.05 ug/L 100
32) trans-1,2-dichloroethene	7.22	96	141692	51.69 ug/L 100
33) di-isopropyl ether	7.69	45	566065	50.60 ug/L 100
34) 2-butanone	8.31	72	92253	262.44 ug/L 100
35) 1,1-dichloroethane	7.73	63	280346	51.66 ug/L 100
36) chloroprene	7.82	53	231290	51.64 ug/L 100
37) acrylonitrile	7.13	53	297374	256.23 ug/L 100
38) vinyl acetate	7.66	86	28974	53.32 ug/L 100
39) ethyl tert-butyl ether	8.11	59	497837	51.03 ug/L 100
40) ethyl acetate	8.31	45	26519	53.98 ug/L 100
41) 2,2-dichloropropane	8.39	77	142254	52.86 ug/L 100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	159728	51.86	ug/L	100
43) methylacrylate	8.39	85	22788	53.46	ug/L	100
44) propionitrile	8.39	54	208875	498.32	ug/L	100
45) bromochloromethane	8.65	128	82650	52.11	ug/L	100
46) tetrahydrofuran	8.66	42	50880	50.09	ug/L	100
47) chloroform	8.71	85	164174	51.38	ug/L	100
48) T-BUTYL FORMATE	8.75	59	129830	51.50	ug/L	100
51) freon 113	6.26	151	126412	55.96	ug/L	100
52) methacrylonitrile	8.56	41	107182	51.20	ug/L	100
53) 1,1,1-trichloroethane	8.95	97	207779	53.33	ug/L	100
54) cyclohexane	9.06	84	225306	55.82	ug/L	100
57) epichlorohydrin	10.87	57	79207	246.11	ug/L	100
58) n-butyl alcohol	9.75	56	211422	2386.15	ug/L	100
59) carbon tetrachloride	9.14	117	185725	52.41	ug/L	100
60) 1,1-dichloropropene	9.11	75	207096	52.35	ug/L	100
61) hexane	7.52	57	261788	51.74	ug/L	100
62) Tert Amyl alcohol	9.21	73	34538	250.00	ug/L	100
63) benzene	9.35	78	586984	51.45	ug/L	100
64) iso-octane	9.42	57	659965	50.77	ug/L	100
65) tert-amyl methyl ether	9.40	87	94954	50.76	ug/L	100
66) heptane	9.56	57	157355	51.18	ug/L	100
67) isopropyl acetate	9.23	61	64982	52.13	ug/L	100
68) 1,2-dichloroethane	9.37	62	190378	50.77	ug/L	100
69) trichloroethene	10.02	95	153833	51.85	ug/L	100
71) ethyl acrylate	9.99	55	197535	52.15	ug/L	100
72) 2-nitropropane	10.75	41	60236	51.66	ug/L	100
73) 2-chloroethyl vinyl ether	10.77	63	501392	258.02	ug/L	100
74) methyl methacrylate	10.24	100	44514	52.74	ug/L	100
75) 1,2-dichloropropane	10.30	63	164195	50.52	ug/L	100
76) dibromomethane	10.41	93	96724	51.52	ug/L	100
77) methylcyclohexane	10.30	83	264745	51.13	ug/L	100
78) bromodichloromethane	10.55	83	206252	52.14	ug/L	100
79) cis-1,3-dichloropropene	11.00	75	278457	52.16	ug/L	100
81) 4-methyl-2-pentanone	11.09	58	313618	250.92	ug/L	100
82) toluene	11.39	92	372559	51.61	ug/L	100
83) 3-methyl-1-butanol	11.08	55	126072	961.59	ug/L	100
84) trans-1,3-dichloropropene	11.58	75	235398	52.58	ug/L	100
85) ethyl methacrylate	11.55	69	213408	52.26	ug/L	100
86) 1,1,2-trichloroethane	11.81	83	122279	51.34	ug/L	100
87) 2-hexanone	11.97	58	329043	248.72	ug/L	100
89) tetrachloroethene	11.96	164	154471	51.82	ug/L	100
90) 1,3-dichloropropane	12.00	76	228709	50.20	ug/L	100
91) butyl acetate	12.05	56	111807	50.72	ug/L	100
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	127861	482.82	ug/L	100
93) dibromochloromethane	12.26	129	171211	53.43	ug/L	100
94) 1,2-dibromoethane	12.43	107	160978	51.54	ug/L	100
95) n-butyl ether	12.88	57	724357	52.48	ug/L	100
96) chlorobenzene	12.94	112	422971	51.36	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.01	131	155866	52.00	ug/L	100
98) ethylbenzene	13.00	91	696825	51.15	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68758.D
 Acq On : 27 Jan 2017 12:35 pm
 Operator : Hueanht
 Sample : icc2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

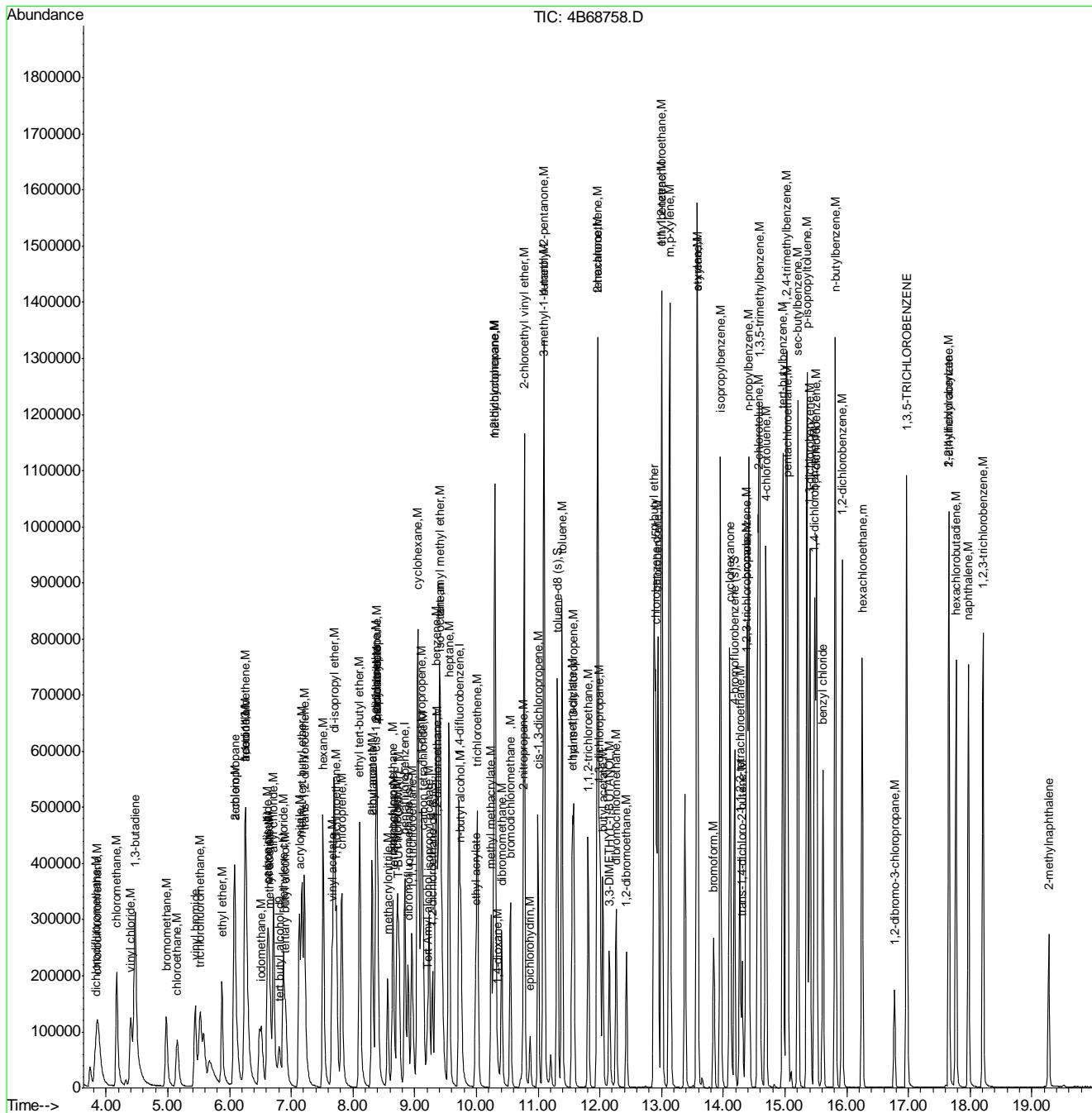
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	555366	101.97	ug/L	100
100) o-xylene	13.57	106	290521	51.82	ug/L	100
101) styrene	13.58	104	482007	51.48	ug/L	100
102) bromoform	13.84	173	127746	54.85	ug/L	100
104) isopropylbenzene	13.95	105	757335	52.06	ug/L	100
106) cyclohexanone	14.11	55	350384	503.14	ug/L	100
107) bromobenzene	14.38	156	216101	51.23	ug/L	100
108) 1,1,2,2-tetrachloroethane	14.27	83	210514	51.62	ug/L	100
109) trans-1,4-dichloro-2-butene	14.30	53	42953	50.96	ug/L	100
110) 1,2,3-trichloropropane	14.37	110	51703	50.48	ug/L	100
111) n-propylbenzene	14.41	91	878247	51.01	ug/L	100
113) 2-chlorotoluene	14.57	126	192548	51.53	ug/L	100
114) 4-chlorotoluene	14.69	91	547975	51.32	ug/L	100
115) 1,3,5-trimethylbenzene	14.59	105	623794	51.28	ug/L	100
116) tert-butylbenzene	14.97	119	584618	52.03	ug/L	100
117) pentachloroethane	15.04	167	129875	51.17	ug/L	100
118) 1,2,4-trimethylbenzene	15.02	105	649054	51.77	ug/L	100
119) sec-butylbenzene	15.21	105	886910	52.44	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	410105	51.11	ug/L	100
121) p-isopropyltoluene	15.36	119	778040	52.79	ug/L	100
122) 1,4-dichlorobenzene	15.51	146	407781	51.62	ug/L	100
123) benzyl chloride	15.61	91	402260	53.88	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	405001	51.40	ug/L	100
126) n-butylbenzene	15.82	92	418847	53.61	ug/L	100
128) 1,2-dibromo-3-chloropropan	16.77	75	38060	54.70	ug/L	100
129) 1,3,5-TRICHLOROBENZENE	16.97	180	372033	52.66	ug/L	100
130) 1,2,4-trichlorobenzene	17.66	180	336923	53.55	ug/L	100
131) hexachlorobutadiene	17.77	225	184076	51.56	ug/L	100
132) naphthalene	17.97	128	593060	52.88	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	290084	52.67	ug/L	100
134) hexachloroethane	16.25	201	152982	54.11	ug/L	100
135) 2-ethylhexyl acrylate	17.66	70	14093	10.80	ug/L	100
136) 2-methylnaphthalene	19.27	142	151506	56.83	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68758.D
Acq On : 27 Jan 2017 12:35 pm
Operator : Hueanht
Sample : icc2825-50
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 27 16:08:22 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.82	65	117695	500.00	ug/L	0.02
5) pentafluorobenzene	8.84	168	281126	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	397934	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	360023	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	229018	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	120856	50.42	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	=	100.84%
50) 1,2-dichloroethane-d4 (s)	9.29	65	124126	48.73	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	=	97.46%
80) toluene-d8 (s)	11.31	98	461918	50.17	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	=	100.34%
105) 4-bromofluorobenzene (s)	14.18	95	187654	50.19	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	=	100.38%

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.92	59	292190	983.43 ug/L 94
3) 1,4-dioxane	10.35	88	130726	5188.01 ug/L 95
7) chlorodifluoromethane	3.86	51	891674	196.24 ug/L 98
8) dichlorodifluoromethane	3.82	85	828657	204.65 ug/L 99
10) chloromethane	4.17	52	367670	185.30 ug/L 97
11) vinyl chloride	4.40	62	1003305	194.40 ug/L 98
12) bromomethane	4.96	94	378050	159.98 ug/L 98
13) chloroethane	5.14	64	424694	184.76 ug/L 98
14) vinyl bromide	5.43	106	628677	191.43 ug/L 100
15) trichlorofluoromethane	5.52	101	869932	193.87 ug/L 99
16) 1,3-butadiene	4.47	54	824347	195.63 ug/L 100
19) ethyl ether	5.88	74	307945	189.43 ug/L 99
20) 2-chloropropane	6.08	39	181598	169.54 ug/L 91
21) acrolein	6.09	56	1113828	1822.14 ug/L 99
22) 1,1-dichloroethene	6.25	96	498924	188.84 ug/L 97
23) acetone	6.26	58	274928	880.13 ug/L 100
24) allyl chloride	6.71	76	401893	174.48 ug/L 91
25) acetonitrile	6.63	40	308508	1821.48 ug/L 97
26) iodomethane	6.51	142	1076862	205.12 ug/L 99
27) carbon disulfide	6.62	76	1718755	201.24 ug/L 100
28) methylene chloride	6.87	84	554903	189.55 ug/L 95
29) methyl acetate	6.65	74	85923	202.35 ug/L 94
31) methyl tert butyl ether	7.18	73	1455418	181.99 ug/L 100
32) trans-1,2-dichloroethene	7.21	96	489213	186.34 ug/L 99
33) di-isopropyl ether	7.70	45	1890808	176.46 ug/L 97
34) 2-butanone	8.31	72	328935	976.99 ug/L # 91
35) 1,1-dichloroethane	7.73	63	943492	181.52 ug/L 99
36) chloroprene	7.81	53	801378	186.80 ug/L 99
37) acrylonitrile	7.13	53	1047575	942.39 ug/L 99
38) vinyl acetate	7.66	86	106216	204.07 ug/L 95
39) ethyl tert-butyl ether	8.11	59	1753646	187.66 ug/L 98
40) ethyl acetate	8.31	45	90568	192.47 ug/L 98
41) 2,2-dichloropropane	8.39	77	433864	168.31 ug/L 96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	546857	185.39	ug/L	98
43) methylacrylate	8.39	85	81888	200.56	ug/L #	90
44) propionitrile	8.39	54	718818	1790.46	ug/L	99
45) bromochloromethane	8.65	128	295467	194.48	ug/L	93
46) tetrahydrofuran	8.66	42	174851	179.73	ug/L	96
47) chloroform	8.71	85	568840	185.86	ug/L	99
48) T-BUTYL FORMATE	8.75	59	469092	194.26	ug/L	97
51) freon 113	6.25	151	458773	212.05	ug/L	100
52) methacrylonitrile	8.56	41	376981	188.00	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	735467	197.08	ug/L	99
54) cyclohexane	9.06	84	787416	203.69	ug/L	93
57) epichlorohydrin	10.87	57	304724	984.76	ug/L	98
58) n-butyl alcohol	9.75	56	799425	9383.75	ug/L	98
59) carbon tetrachloride	9.14	117	661399	194.11	ug/L	98
60) 1,1-dichloropropene	9.11	75	709854	186.62	ug/L	98
61) hexane	7.52	57	912324	187.54	ug/L	98
62) Tert Amyl alcohol	9.21	73	133717	1006.66	ug/L	95
63) benzene	9.35	78	2026423	184.74	ug/L	99
64) iso-octane	9.43	57	2363068	189.08	ug/L	98
65) tert-amyl methyl ether	9.40	87	338919	188.44	ug/L	97
66) heptane	9.56	57	546303	184.80	ug/L	98
67) isopropyl acetate	9.24	61	229256	191.27	ug/L	95
68) 1,2-dichloroethane	9.37	62	641768	178.01	ug/L	99
69) trichloroethene	10.02	95	530203	185.86	ug/L	96
71) ethyl acrylate	9.99	55	710277	195.03	ug/L	99
72) 2-nitropropane	10.75	41	213114	190.09	ug/L #	82
73) 2-chloroethyl vinyl ether	10.77	63	1738283	930.36	ug/L	98
74) methyl methacrylate	10.25	100	162208	199.88	ug/L	88
75) 1,2-dichloropropane	10.30	63	544238	174.14	ug/L	98
76) dibromomethane	10.41	93	345072	191.15	ug/L	94
77) methylcyclohexane	10.30	83	926735	186.16	ug/L	97
78) bromodichloromethane	10.55	83	744592	195.78	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	990745	193.01	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	1054556	877.53	ug/L	91
82) toluene	11.39	92	1321949	190.45	ug/L	95
83) 3-methyl-1-butanol	11.09	55	448595	3558.58	ug/L	96
84) trans-1,3-dichloropropene	11.58	75	836633	194.35	ug/L	98
85) ethyl methacrylate	11.55	69	769550	196.01	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	442936	193.43	ug/L	99
87) 2-hexanone	11.97	58	1131273	889.36	ug/L	93
89) tetrachloroethene	11.96	164	537424	191.37	ug/L	98
90) 1,3-dichloropropane	12.00	76	804926	187.52	ug/L	93
91) butyl acetate	12.05	56	418638	201.56	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	495090	1984.33	ug/L	97
93) dibromochloromethane	12.27	129	659451	218.43	ug/L	100
94) 1,2-dibromoethane	12.43	107	597885	203.17	ug/L	99
95) n-butyl ether	12.88	57	2570972	197.71	ug/L	99
96) chlorobenzene	12.94	112	1522675	196.26	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	567236	200.88	ug/L	98
98) ethylbenzene	13.00	91	2420630	188.58	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanht
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

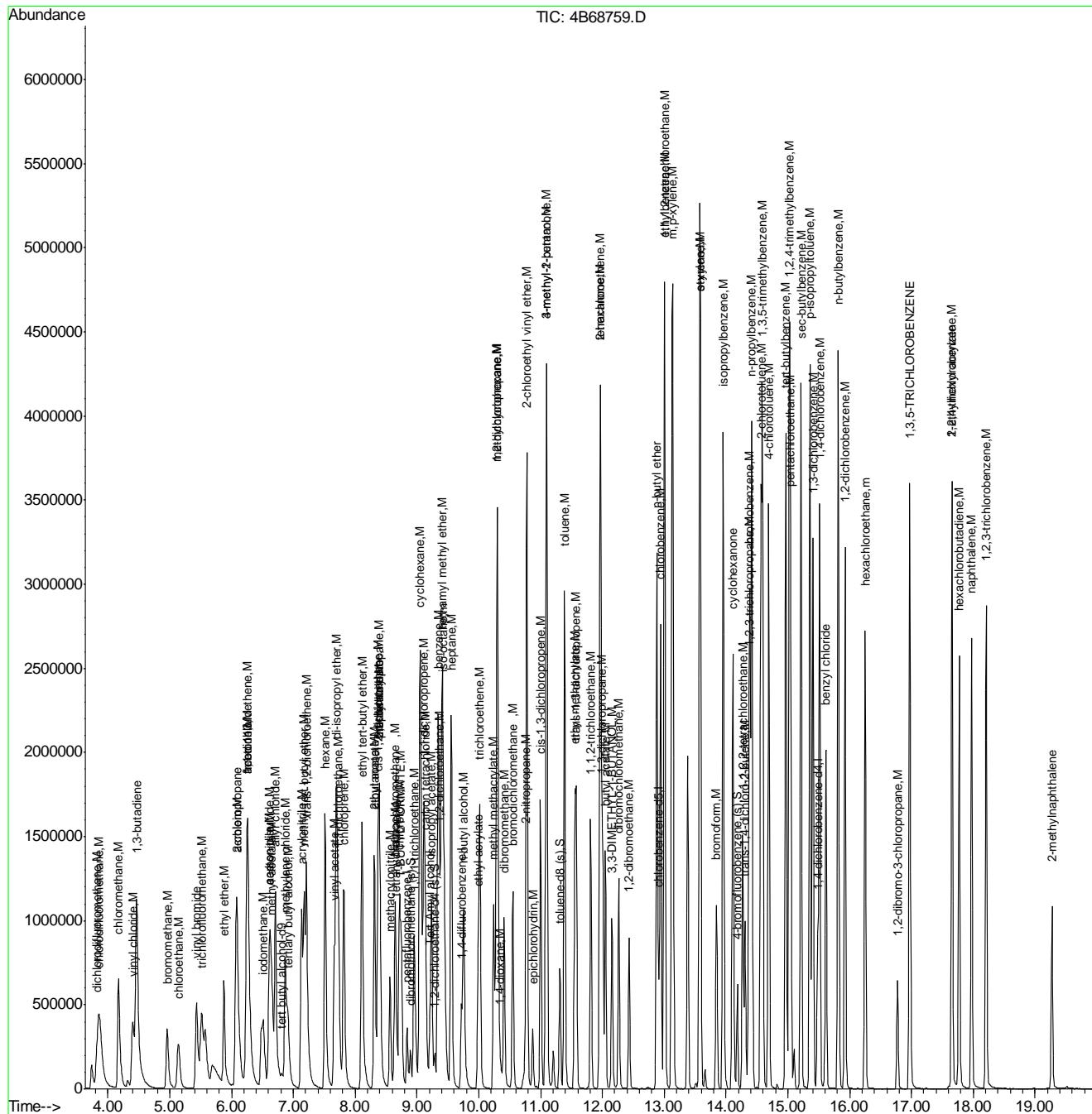
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	2023780	394.40	ug/L	97
100) o-xylene	13.57	106	1053203	199.39	ug/L	95
101) styrene	13.59	104	1726057	195.68	ug/L	93
102) bromoform	13.84	173	534424	243.55	ug/L	98
104) isopropylbenzene	13.95	105	2723589	188.23	ug/L	98
106) cyclohexanone	14.11	55	1152837	1664.44	ug/L	98
107) bromobenzene	14.39	156	799666	190.60	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	782115	192.82	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	190295	226.99	ug/L	95
110) 1,2,3-trichloropropane	14.37	110	196333	192.72	ug/L	100
111) n-propylbenzene	14.41	91	3160440	184.56	ug/L	98
113) 2-chlorotoluene	14.57	126	720285	193.82	ug/L	97
114) 4-chlorotoluene	14.69	91	1998394	188.19	ug/L	98
115) 1,3,5-trimethylbenzene	14.59	105	2213958	182.98	ug/L	97
116) tert-butylbenzene	14.97	119	2099045	187.84	ug/L	99
117) pentachloroethane	15.05	167	512338	202.95	ug/L	97
118) 1,2,4-trimethylbenzene	15.03	105	2259526	181.21	ug/L	97
119) sec-butylbenzene	15.21	105	3139005	186.61	ug/L	98
120) 1,3-dichlorobenzene	15.41	146	1466195	183.73	ug/L	99
121) p-isopropyltoluene	15.36	119	2712223	185.03	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	1480123	188.37	ug/L	99
123) benzyl chloride	15.62	91	1503774	202.50	ug/L	99
124) 1,2-dichlorobenzene	15.93	146	1411199	180.06	ug/L	99
126) n-butylbenzene	15.82	92	1426375	183.55	ug/L	97
128) 1,2-dibromo-3-chloropropan	16.77	75	143473	207.31	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.97	180	1278411	181.93	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	1188689	189.96	ug/L	98
131) hexachlorobutadiene	17.77	225	636285	179.20	ug/L	98
132) naphthalene	17.97	128	2144996	192.31	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	1052201	192.09	ug/L	97
134) hexachloroethane	16.25	201	584899	207.99	ug/L	97
135) 2-ethylhexyl acrylate	17.66	70	74593	57.49	ug/L	89
136) 2-methylnaphthalene	19.27	142	617745	232.98	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68759.D
 Acq On : 27 Jan 2017 1:03 pm
 Operator : Hueanh
 Sample : ic2825-200
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 27 16:16:47 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanht
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	148836	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	319000	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	432372	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	407648	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	237277	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132827	48.84	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 97.68%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144205	49.89	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 99.78%	
80) toluene-d8 (s)	11.31	98	500588	50.04	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 100.08%	
105) 4-bromofluorobenzene (s)	14.18	95	195400	50.45	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.90%	

Target Compounds

				Qvalue	
10) chloromethane	4.17	52	368	0.16	ug/L # 24
11) vinyl chloride	4.39	62	1125	0.19	ug/L 92
14) vinyl bromide	5.46	106	704	0.19	ug/L # 85
26) iodomethane	6.53	142	1344	0.23	ug/L 84
31) methyl tert butyl ether	7.17	73	1860	0.20	ug/L 92
32) trans-1,2-dichloroethene	7.22	96	586	0.20	ug/L # 53
33) di-isopropyl ether	7.69	45	2960	0.24	ug/L 87
35) 1,1-dichloroethane	7.73	63	1355	0.23	ug/L 82
36) chloroprene	7.82	53	1046	0.21	ug/L 92
37) acrylonitrile	7.14	53	1374	1.09	ug/L 79
39) ethyl tert-butyl ether	8.11	59	2208	0.21	ug/L 90
41) 2,2-dichloropropane	8.39	77	627	0.21	ug/L 67
45) bromochloromethane	8.65	128	295	0.17	ug/L # 81
53) 1,1,1-trichloroethane	8.96	97	837	0.20	ug/L # 71
59) carbon tetrachloride	9.13	117	755	0.20	ug/L 73
60) 1,1-dichloropropene	9.11	75	897	0.22	ug/L # 69
61) hexane	7.52	57	988	0.19	ug/L 81
63) benzene	9.34	78	2995	0.25	ug/L 99
64) iso-octane	9.41	57	2803	0.21	ug/L 95
65) tert-amyl methyl ether	9.40	87	310	0.16	ug/L # 26
68) 1,2-dichloroethane	9.37	62	754	0.19	ug/L 83
69) trichloroethene	10.02	95	626	0.20	ug/L 81
73) 2-chloroethyl vinyl ether	10.77	63	2549	1.26	ug/L 97
75) 1,2-dichloropropane	10.30	63	582	0.17	ug/L 91
76) dibromomethane	10.42	93	431	0.22	ug/L 86
77) methylcyclohexane	10.30	83	974	0.18	ug/L 94
78) bromodichloromethane	10.55	83	688	0.17	ug/L 85
79) cis-1,3-dichloropropene	11.00	75	944	0.17	ug/L 90
81) 4-methyl-2-pentanone	11.09	58	1489	1.14	ug/L 96
82) toluene	11.39	92	1918	0.25	ug/L 88
84) trans-1,3-dichloropropene	11.58	75	1017	0.22	ug/L # 67
89) tetrachloroethene	11.96	164	750	0.24	ug/L 88
90) 1,3-dichloropropane	12.00	76	1083	0.22	ug/L 84

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanht
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) dibromochloromethane	12.27	129	540	0.16	ug/L	66
94) 1,2-dibromoethane	12.44	107	667	0.20	ug/L	98
95) n-butyl ether	12.88	57	3696	0.25	ug/L	# 1
96) chlorobenzene	12.94	112	2090	0.24	ug/L	96
97) 1,1,1,2-tetrachloroethane	13.01	131	633	0.20	ug/L	95
98) ethylbenzene	13.00	91	3689	0.25	ug/L	99
99) m,p-xylene	13.13	106	2738	0.47	ug/L	97
100) o-xylene	13.57	106	1152	0.19	ug/L	86
101) styrene	13.59	104	2502	0.25	ug/L	84
104) isopropylbenzene	13.95	105	3673	0.25	ug/L	96

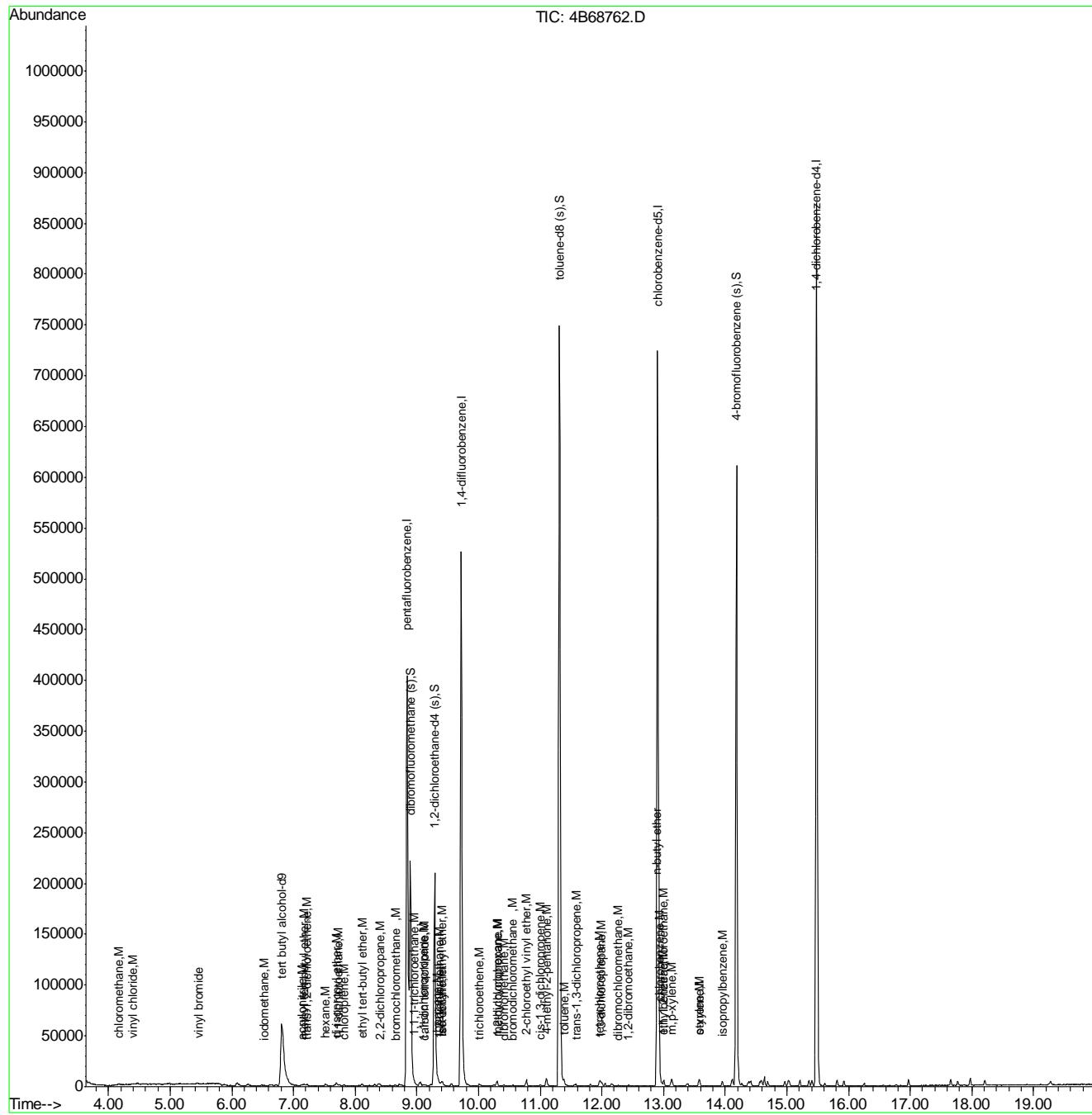
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68762.D
 Acq On : 27 Jan 2017 2:30 pm
 Operator : Hueanh
 Sample : ic2825-0.2
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jan 27 17:25:11 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68763.D
 Acq On : 27 Jan 2017 2:58 pm
 Operator : Hueanht
 Sample : ic2825-0.5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	151861	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	315390	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	432204	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	405339	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	237698	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	131819	49.02	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.04%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	145141	50.79	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 101.58%	
80) toluene-d8 (s)	11.31	98	497216	49.73	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.46%	
105) 4-bromofluorobenzene (s)	14.18	95	194311	50.08	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.16%	

Target Compounds

				QValue		
8) dichlorodifluoromethane	3.83	85	1802	0.40	ug/L	# 50
10) chloromethane	4.17	52	992	0.45	ug/L	94
11) vinyl chloride	4.39	62	2939	0.51	ug/L	95
13) chloroethane	5.16	64	1292	0.50	ug/L	63
14) vinyl bromide	5.44	106	1634	0.44	ug/L	# 88
21) acrolein	6.09	56	4272	6.23	ug/L	94
22) 1,1-dichloroethene	6.25	96	1245	0.42	ug/L	# 76
25) acetonitrile	6.63	40	1066	5.61	ug/L	# 63
26) iodomethane	6.51	142	3321	0.56	ug/L	81
27) carbon disulfide	6.63	76	4781	0.50	ug/L	85
28) methylene chloride	6.87	84	1631	0.50	ug/L	# 69
31) methyl tert butyl ether	7.17	73	4266	0.48	ug/L	95
32) trans-1,2-dichloroethene	7.22	96	1474	0.50	ug/L	85
33) di-isopropyl ether	7.69	45	5731	0.48	ug/L	91
34) 2-butanone	8.31	72	871	2.31	ug/L	# 20
35) 1,1-dichloroethane	7.73	63	2901	0.50	ug/L	84
36) chloroprene	7.82	53	1990	0.41	ug/L	87
37) acrylonitrile	7.13	53	3026	2.43	ug/L	92
39) ethyl tert-butyl ether	8.11	59	4944	0.47	ug/L	95
41) 2,2-dichloropropane	8.39	77	1532	0.53	ug/L	78
42) cis-1,2-dichloroethene	8.37	96	1472	0.44	ug/L	93
45) bromochloromethane	8.65	128	713	0.42	ug/L	92
47) chloroform	8.72	85	2071	0.60	ug/L	94
52) methacrylonitrile	8.57	41	1184	0.53	ug/L	88
53) 1,1,1-trichloroethane	8.96	97	2020	0.48	ug/L	# 74
54) cyclohexane	9.05	84	2152	0.50	ug/L	97
57) epichlorohydrin	10.87	57	678	2.02	ug/L	54
59) carbon tetrachloride	9.14	117	1669	0.45	ug/L	95
60) 1,1-dichloropropene	9.11	75	2269	0.55	ug/L	90
61) hexane	7.52	57	1991	0.38	ug/L	96
63) benzene	9.35	78	6230	0.52	ug/L	100
64) iso-octane	9.41	57	5632	0.41	ug/L	90
65) tert-amyl methyl ether	9.40	87	916	0.47	ug/L	# 78

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68763.D
 Acq On : 27 Jan 2017 2:58 pm
 Operator : Hueanht
 Sample : ic2825-0.5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

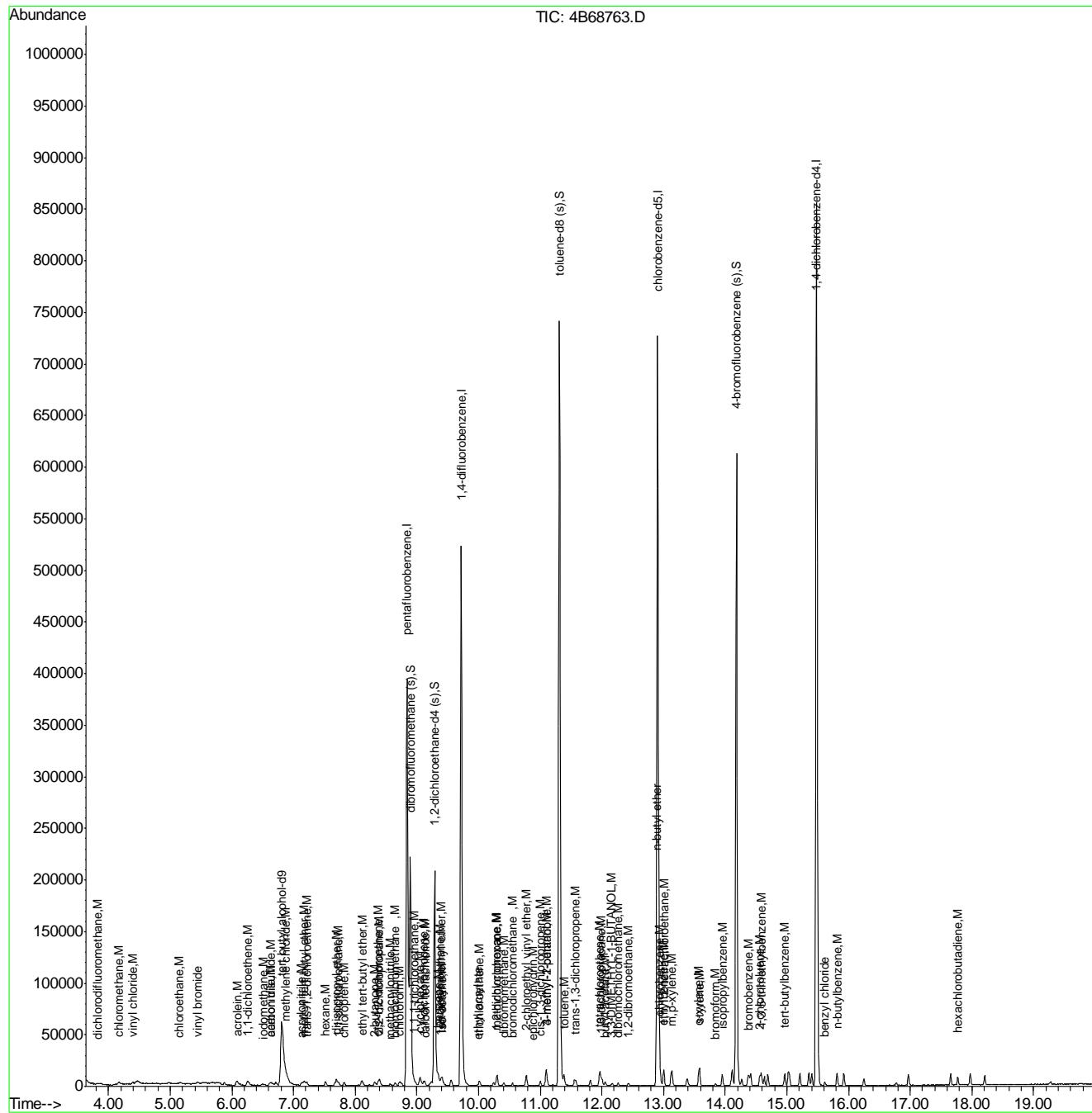
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1,2-dichloroethane	9.38	62	2057	0.53	ug/L	93
69) trichloroethene	10.01	95	1508	0.49	ug/L	86
71) ethyl acrylate	9.99	55	2200	0.56	ug/L	# 68
73) 2-chloroethyl vinyl ether	10.77	63	4647	2.29	ug/L	96
75) 1,2-dichloropropane	10.30	63	1632	0.48	ug/L	82
76) dibromomethane	10.40	93	980	0.50	ug/L	# 81
77) methylcyclohexane	10.30	83	2098	0.39	ug/L	97
78) bromodichloromethane	10.55	83	2117	0.51	ug/L	92
79) cis-1,3-dichloropropene	11.00	75	2545	0.46	ug/L	97
81) 4-methyl-2-pentanone	11.10	58	3804	2.91	ug/L	93
82) toluene	11.39	92	4095	0.54	ug/L	93
83) 3-methyl-1-butanol	11.09	55	1418	10.36	ug/L	80
84) trans-1,3-dichloropropene	11.57	75	2337	0.50	ug/L	# 65
89) tetrachloroethene	11.96	164	1737	0.55	ug/L	92
90) 1,3-dichloropropane	12.00	76	3180	0.66	ug/L	83
91) butyl acetate	12.05	56	982	0.42	ug/L	# 78
92) 3,3-DIMETHYL-1-BUTANOL	12.17	57	1463	5.21	ug/L	96
93) dibromochloromethane	12.26	129	1632	0.48	ug/L	98
94) 1,2-dibromoethane	12.43	107	1950	0.59	ug/L	95
95) n-butyl ether	12.88	57	8280	0.57	ug/L	# 13
96) chlorobenzene	12.94	112	4951	0.57	ug/L	96
97) 1,1,1,2-tetrachloroethane	13.01	131	1901	0.60	ug/L	93
98) ethylbenzene	13.00	91	7821	0.54	ug/L	96
99) m,p-xylene	13.14	106	6151	1.06	ug/L	98
100) o-xylene	13.57	106	3104	0.52	ug/L	98
101) styrene	13.59	104	5777	0.58	ug/L	93
102) bromoform	13.84	173	1160	0.47	ug/L	93
104) isopropylbenzene	13.95	105	8040	0.54	ug/L	93
107) bromobenzene	14.38	156	2705	0.62	ug/L	90
113) 2-chlorotoluene	14.56	126	2123	0.55	ug/L	95
115) 1,3,5-trimethylbenzene	14.59	105	6927	0.55	ug/L	98
116) tert-butylbenzene	14.96	119	6456	0.56	ug/L	100
123) benzyl chloride	15.61	91	3222	0.42	ug/L	# 94
126) n-butylbenzene	15.82	92	4225	0.52	ug/L	89
131) hexachlorobutadiene	17.77	225	2159	0.59	ug/L	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68763.D
 Acq On : 27 Jan 2017 2:58 pm
 Operator : Hueanh
 Sample : ic2825-0.5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 27 17:26:21 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanht
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.82	65	156767	500.00	ug/L	0.01
5) pentafluorobenzene	8.84	168	318206	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	433559	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	408946	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	238344	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	132268	48.75	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 97.50%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	148631	51.55	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 103.10%	
80) toluene-d8 (s)	11.31	98	501254	49.97	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.94%	
105) 4-bromofluorobenzene (s)	14.18	95	197365	50.72	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 101.44%	

Target Compounds

Qvalue

2) tertiary butyl alcohol	6.93	59	2271	5.74	ug/L	82
7) chlorodifluoromethane	3.86	51	4281	0.83	ug/L	85
8) dichlorodifluoromethane	3.85	85	4021	0.88	ug/L	94
10) chloromethane	4.17	52	2116	0.94	ug/L	95
11) vinyl chloride	4.39	62	5539	0.95	ug/L	89
12) bromomethane	4.98	94	2634	0.98	ug/L	89
13) chloroethane	5.16	64	2582	0.99	ug/L	85
14) vinyl bromide	5.45	106	3416	0.92	ug/L	# 95
15) trichlorofluoromethane	5.52	101	4436	0.87	ug/L	89
16) 1,3-butadiene	4.47	54	5052	1.06	ug/L	95
19) ethyl ether	5.87	74	1482	0.81	ug/L	90
20) 2-chloropropane	6.08	39	1390	1.15	ug/L	95
21) acrolein	6.09	56	8004	11.57	ug/L	93
22) 1,1-dichloroethene	6.25	96	2807	0.94	ug/L	89
23) acetone	6.27	58	1456	4.12	ug/L	# 41
25) acetonitrile	6.64	40	2324	12.12	ug/L	97
26) iodomethane	6.48	142	6136	1.03	ug/L	91
27) carbon disulfide	6.62	76	8440	0.87	ug/L	94
28) methylene chloride	6.87	84	3224	0.97	ug/L	83
31) methyl tert butyl ether	7.18	73	8677	0.96	ug/L	94
32) trans-1,2-dichloroethene	7.22	96	2742	0.92	ug/L	94
33) di-isopropyl ether	7.69	45	13045	1.08	ug/L	93
34) 2-butanone	8.32	72	1813	4.76	ug/L	# 89
35) 1,1-dichloroethane	7.74	63	5370	0.91	ug/L	92
36) chloroprene	7.82	53	4841	1.00	ug/L	96
37) acrylonitrile	7.13	53	6279	4.99	ug/L	93
39) ethyl tert-butyl ether	8.11	59	10935	1.03	ug/L	96
41) 2,2-dichloropropane	8.40	77	2908	1.00	ug/L	98
42) cis-1,2-dichloroethene	8.37	96	3259	0.98	ug/L	96
44) propionitrile	8.40	54	5000	11.00	ug/L	94
45) bromochloromethane	8.65	128	1544	0.90	ug/L	91
46) tetrahydrofuran	8.67	42	1102	1.00	ug/L	# 68
47) chloroform	8.72	85	3751	1.08	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanht
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
48) T-BUTYL FORMATE	8.75	59	2331	0.85	ug/L #	79
52) methacrylonitrile	8.56	41	2472	1.09	ug/L	97
53) 1,1,1-trichloroethane	8.95	97	4137	0.98	ug/L	90
54) cyclohexane	9.06	84	4451	1.02	ug/L #	78
57) epichlorohydrin	10.87	57	1798	5.33	ug/L	91
59) carbon tetrachloride	9.14	117	3265	0.88	ug/L	97
60) 1,1-dichloropropene	9.11	75	4017	0.97	ug/L	92
61) hexane	7.52	57	4698	0.89	ug/L	96
62) Tert Amyl alcohol	9.22	73	915	6.32	ug/L	78
63) benzene	9.35	78	11867	0.99	ug/L	98
64) iso-octane	9.41	57	13133	0.96	ug/L	97
65) tert-amyl methyl ether	9.39	87	1976	1.01	ug/L #	67
66) heptane	9.56	57	3024	0.94	ug/L	94
67) isopropyl acetate	9.23	61	1221	0.93	ug/L #	53
68) 1,2-dichloroethane	9.37	62	3932	1.00	ug/L	95
69) trichloroethene	10.01	95	2959	0.95	ug/L	88
71) ethyl acrylate	10.00	55	3870	0.98	ug/L	87
72) 2-nitropropane	10.76	41	1355	1.11	ug/L #	1
73) 2-chloroethyl vinyl ether	10.77	63	10539	5.18	ug/L	100
74) methyl methacrylate	10.25	100	757	0.86	ug/L #	82
75) 1,2-dichloropropane	10.30	63	3412	1.00	ug/L	93
76) dibromomethane	10.41	93	1963	1.00	ug/L	92
77) methylcyclohexane	10.30	83	5190	0.96	ug/L	91
78) bromodichloromethane	10.55	83	3622	0.87	ug/L	87
79) cis-1,3-dichloropropene	11.00	75	5101	0.91	ug/L	97
81) 4-methyl-2-pentanone	11.09	58	7064	5.40	ug/L	91
82) toluene	11.39	92	7506	0.99	ug/L	99
83) 3-methyl-1-butanol	11.09	55	3109	22.64	ug/L #	68
84) trans-1,3-dichloropropene	11.58	75	3943	0.84	ug/L	92
85) ethyl methacrylate	11.55	69	3953	0.92	ug/L	85
86) 1,1,2-trichloroethane	11.81	83	2356	0.94	ug/L	90
87) 2-hexanone	11.98	58	7198	5.19	ug/L	96
89) tetrachloroethene	11.96	164	3388	1.06	ug/L	90
90) 1,3-dichloropropane	12.00	76	5104	1.05	ug/L	85
91) butyl acetate	12.05	56	2692	1.14	ug/L #	77
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	3363	11.87	ug/L	93
93) dibromochloromethane	12.26	129	2424	0.71	ug/L	97
94) 1,2-dibromoethane	12.44	107	3185	0.95	ug/L	92
95) n-butyl ether	12.88	57	14359	0.97	ug/L #	53
96) chlorobenzene	12.94	112	8618	0.98	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	2864	0.89	ug/L	87
98) ethylbenzene	13.00	91	14669	1.01	ug/L	92
99) m,p-xylene	13.14	106	10882	1.87	ug/L	92
100) o-xylene	13.57	106	5450	0.91	ug/L #	75
101) styrene	13.59	104	9405	0.94	ug/L	93
102) bromoform	13.84	173	1430	0.57	ug/L	78
104) isopropylbenzene	13.95	105	14585	0.97	ug/L	98
106) cyclohexanone	14.11	55	8129	11.28	ug/L	96
107) bromobenzene	14.38	156	4351	1.00	ug/L	93
108) 1,1,2,2-tetrachloroethane	14.27	83	4031	0.95	ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68764.D
 Acq On : 27 Jan 2017 3:26 pm
 Operator : Hueanh
 Sample : ic2825-1
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

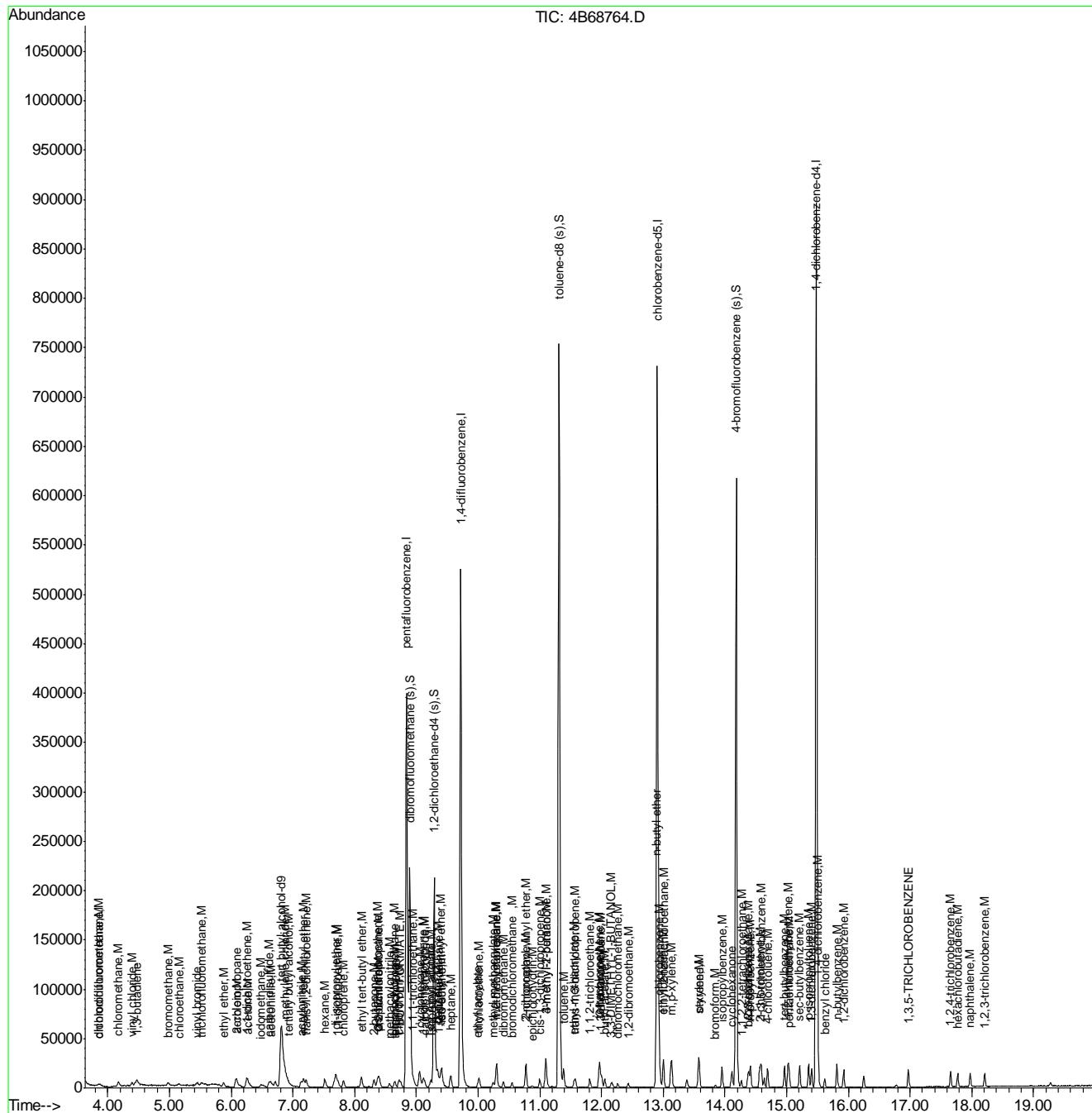
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
110) 1,2,3-trichloropropane	14.37	110	951	0.90	ug/L	74
111) n-propylbenzene	14.41	91	17655	0.99	ug/L	97
113) 2-chlorotoluene	14.57	126	3704	0.96	ug/L	95
114) 4-chlorotoluene	14.69	91	11046	1.00	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	12236	0.97	ug/L	95
116) tert-butylbenzene	14.97	119	11144	0.96	ug/L	91
117) pentachloroethane	15.05	167	2156	0.82	ug/L	86
118) 1,2,4-trimethylbenzene	15.03	105	12223	0.94	ug/L	95
119) sec-butylbenzene	15.21	105	16553	0.95	ug/L	97
120) 1,3-dichlorobenzene	15.40	146	8717	1.05	ug/L	94
121) p-isopropyltoluene	15.36	119	14047	0.92	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	8261	1.01	ug/L	100
123) benzyl chloride	15.62	91	6727	0.87	ug/L	98
124) 1,2-dichlorobenzene	15.93	146	8214	1.01	ug/L	97
126) n-butylbenzene	15.82	92	7424	0.92	ug/L	91
129) 1,3,5-TRICHLOROBENZENE	16.97	180	6654	0.91	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	5850	0.90	ug/L	93
131) hexachlorobutadiene	17.77	225	3637	0.98	ug/L	96
132) naphthalene	17.97	128	11239	0.97	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	5286	0.93	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68764.D
Acq On : 27 Jan 2017 3:26 pm
Operator : Hueanht
Sample : ic2825-1
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 31 17:19:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	147519	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	309679	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	425271	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	402095	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	228551	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	130094	49.27	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 98.54%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144062	51.34	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 102.68%	
80) toluene-d8 (s)	11.31	98	490379	49.84	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.68%	
105) 4-bromofluorobenzene (s)	14.18	95	190151	50.96	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 101.92%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.91	59	9804	26.33 ug/L 96
3) 1,4-dioxane	10.34	88	3984	126.14 ug/L 90
7) chlorodifluoromethane	3.86	51	25750	5.14 ug/L 97
8) dichlorodifluoromethane	3.82	85	20959	4.70 ug/L 96
10) chloromethane	4.18	52	11877	5.43 ug/L 88
11) vinyl chloride	4.40	62	28208	4.96 ug/L 97
12) bromomethane	4.98	94	14060	5.40 ug/L 93
13) chloroethane	5.17	64	11500	4.54 ug/L 91
14) vinyl bromide	5.44	106	17734	4.90 ug/L 100
15) trichlorofluoromethane	5.51	101	23885	4.83 ug/L 96
16) 1,3-butadiene	4.47	54	18423	3.97 ug/L 97
19) ethyl ether	5.88	74	8686	4.85 ug/L 95
20) 2-chloropropane	6.08	39	5646	4.79 ug/L 97
21) acrolein	6.09	56	34454	51.17 ug/L 99
22) 1,1-dichloroethene	6.26	96	15245	5.24 ug/L 92
23) acetone	6.26	58	8983	26.11 ug/L 88
24) allyl chloride	6.72	76	24243	9.55 ug/L # 71
25) acetonitrile	6.63	40	10492	56.23 ug/L 97
26) iodomethane	6.49	142	23732	4.10 ug/L 97
27) carbon disulfide	6.62	76	35802	3.81 ug/L 97
28) methylene chloride	6.87	84	16176	5.02 ug/L 96
29) methyl acetate	6.66	74	2428	5.19 ug/L # 78
31) methyl tert butyl ether	7.18	73	46581	5.29 ug/L 98
32) trans-1,2-dichloroethene	7.22	96	15181	5.25 ug/L 98
33) di-isopropyl ether	7.70	45	63314	5.36 ug/L 99
34) 2-butanone	8.31	72	9527	25.69 ug/L 96
35) 1,1-dichloroethane	7.74	63	30366	5.30 ug/L 96
36) chloroprene	7.82	53	24549	5.19 ug/L 97
37) acrylonitrile	7.13	53	31791	25.96 ug/L 93
38) vinyl acetate	7.67	86	2708	4.72 ug/L 74
39) ethyl tert-butyl ether	8.11	59	52609	5.11 ug/L 99
40) ethyl acetate	8.32	45	2789	5.38 ug/L 74
41) 2,2-dichloropropane	8.40	77	14760	5.20 ug/L 98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	16612	5.11	ug/L	99
43) methylacrylate	8.40	85	2420	5.38	ug/L #	87
44) propionitrile	8.39	54	24751	55.97	ug/L	92
45) bromochloromethane	8.65	128	8362	5.00	ug/L	99
46) tetrahydrofuran	8.66	42	5764	5.38	ug/L	97
47) chloroform	8.72	85	17945	5.32	ug/L	99
48) T-BUTYL FORMATE	8.74	59	11447	4.30	ug/L	86
51) freon 113	6.26	151	9630	4.04	ug/L	94
52) methacrylonitrile	8.56	41	12311	5.57	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	19543	4.75	ug/L	94
54) cyclohexane	9.06	84	17727	4.16	ug/L #	80
57) epichlorohydrin	10.87	57	8184	24.75	ug/L	96
58) n-butyl alcohol	9.75	56	32683	358.98	ug/L	98
59) carbon tetrachloride	9.14	117	18097	4.97	ug/L	99
60) 1,1-dichloropropene	9.12	75	21393	5.26	ug/L	99
61) hexane	7.52	57	24558	4.72	ug/L	97
62) Tert Amyl alcohol	9.21	73	4782	33.69	ug/L	92
63) benzene	9.35	78	61707	5.26	ug/L	100
64) iso-octane	9.41	57	65381	4.90	ug/L	96
65) tert-amyl methyl ether	9.40	87	10413	5.42	ug/L #	88
66) heptane	9.56	57	15428	4.88	ug/L	95
67) isopropyl acetate	9.24	61	6010	4.69	ug/L #	86
68) 1,2-dichloroethane	9.37	62	20425	5.30	ug/L	94
69) trichloroethene	10.02	95	15827	5.19	ug/L	99
71) ethyl acrylate	9.99	55	20354	5.23	ug/L	99
72) 2-nitropropane	10.75	41	6507	5.43	ug/L #	83
73) 2-chloroethyl vinyl ether	10.77	63	51253	25.67	ug/L	99
74) methyl methacrylate	10.24	100	4235	4.88	ug/L	92
75) 1,2-dichloropropane	10.30	63	18079	5.41	ug/L	98
76) dibromomethane	10.41	93	9991	5.18	ug/L	92
77) methylcyclohexane	10.30	83	26793	5.04	ug/L	95
78) bromodichloromethane	10.55	83	20826	5.12	ug/L	93
79) cis-1,3-dichloropropene	11.00	75	27584	5.03	ug/L	96
81) 4-methyl-2-pentanone	11.10	58	35504	27.64	ug/L	98
82) toluene	11.39	92	38156	5.14	ug/L	100
83) 3-methyl-1-butanol	11.09	55	14716	109.23	ug/L	89
84) trans-1,3-dichloropropene	11.58	75	23449	5.10	ug/L	98
85) ethyl methacrylate	11.55	69	22161	5.28	ug/L	95
86) 1,1,2-trichloroethane	11.81	83	13262	5.42	ug/L	95
87) 2-hexanone	11.97	58	37445	27.55	ug/L	95
89) tetrachloroethene	11.96	164	16876	5.38	ug/L	96
90) 1,3-dichloropropane	12.00	76	26494	5.53	ug/L	96
91) butyl acetate	12.05	56	12107	5.22	ug/L	90
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	14237	51.09	ug/L	95
93) dibromochloromethane	12.26	129	15624	4.63	ug/L	96
94) 1,2-dibromoethane	12.43	107	16137	4.91	ug/L	97
95) n-butyl ether	12.88	57	73509	5.06	ug/L	91
96) chlorobenzene	12.94	112	44644	5.15	ug/L	95
97) 1,1,1,2-tetrachloroethane	13.01	131	16067	5.09	ug/L	95
98) ethylbenzene	13.00	91	75694	5.28	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68765.D
 Acq On : 27 Jan 2017 3:57 pm
 Operator : Hueanht
 Sample : ic2825-5
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:06:55 2017
 Response via : Initial Calibration

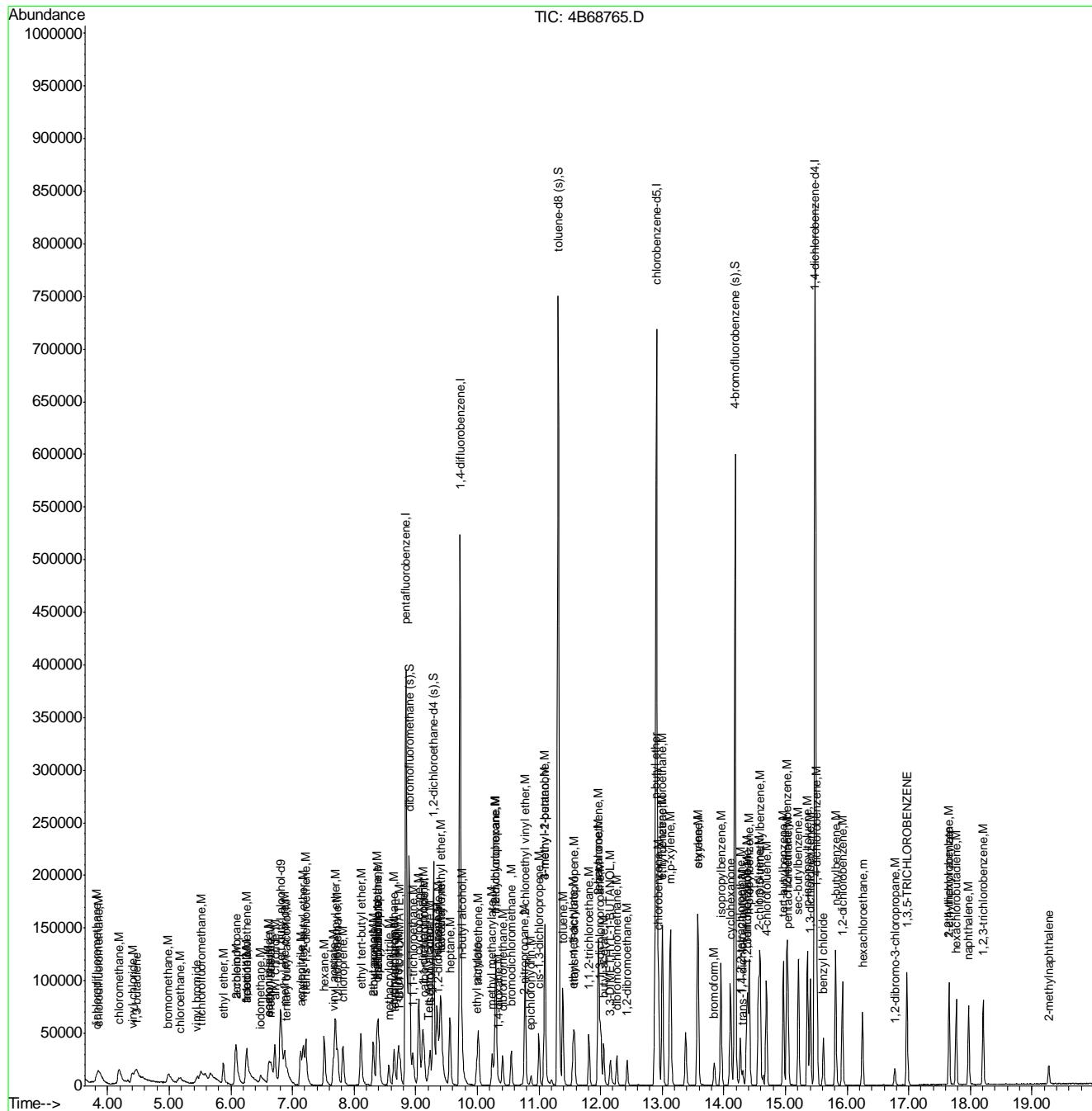
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	59353	10.36	ug/L	97
100) o-xylene	13.57	106	29804	5.05	ug/L	94
101) styrene	13.58	104	51514	5.23	ug/L	99
102) bromoform	13.85	173	10256	4.18	ug/L	95
104) isopropylbenzene	13.95	105	78020	5.40	ug/L	99
106) cyclohexanone	14.11	55	45207	65.40	ug/L	99
107) bromobenzene	14.39	156	22672	5.41	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	23332	5.76	ug/L	97
109) trans-1,4-dichloro-2-butene	14.30	53	3141	3.75	ug/L	90
110) 1,2,3-trichloropropane	14.37	110	5952	5.85	ug/L	91
111) n-propylbenzene	14.41	91	92180	5.39	ug/L	99
113) 2-chlorotoluene	14.57	126	19524	5.26	ug/L	97
114) 4-chlorotoluene	14.69	91	57124	5.39	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	65174	5.40	ug/L	98
116) tert-butylbenzene	14.96	119	59169	5.31	ug/L	95
117) pentachloroethane	15.04	167	12009	4.77	ug/L	87
118) 1,2,4-trimethylbenzene	15.03	105	67220	5.40	ug/L	100
119) sec-butylbenzene	15.21	105	88031	5.24	ug/L	99
120) 1,3-dichlorobenzene	15.40	146	43531	5.47	ug/L	98
121) p-isopropyltoluene	15.36	119	77013	5.26	ug/L	98
122) 1,4-dichlorobenzene	15.51	146	41623	5.31	ug/L	95
123) benzyl chloride	15.62	91	32638	4.40	ug/L	97
124) 1,2-dichlorobenzene	15.93	146	41890	5.36	ug/L	99
126) n-butylbenzene	15.82	92	39133	5.05	ug/L	94
128) 1,2-dibromo-3-chloropropan	16.77	75	3549	5.14	ug/L	93
129) 1,3,5-TRICHLOROBENZENE	16.97	180	36032	5.14	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	31528	5.05	ug/L	97
131) hexachlorobutadiene	17.77	225	18987	5.36	ug/L	95
132) naphthalene	17.97	128	58446	5.25	ug/L	98
133) 1,2,3-trichlorobenzene	18.21	180	28188	5.16	ug/L	98
134) hexachloroethane	16.25	201	12203	4.35	ug/L	92
135) 2-ethylhexyl acrylate	17.66	70	765	0.59	ug/L	85
136) 2-methylnaphthalene	19.27	142	10695	4.04	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68765.D
Acq On : 27 Jan 2017 3:57 pm
Operator : Hueanh
Sample : ic2825-5
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 27 16:29:07 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:06:55 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanht
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.80	65	147067	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	306118	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	423959	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	399337	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	230795	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	128785	49.86	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 99.72%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	144468	51.62	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 103.24%	
80) toluene-d8 (s)	11.31	98	489008	49.91	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.82%	
105) 4-bromofluorobenzene (s)	14.18	95	189790	50.10	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 100.20%	

Target Compounds

				Qvalue
2) tertiary butyl alcohol	6.91	59	19682	51.32 ug/L 99
3) 1,4-dioxane	10.35	88	8412	266.68 ug/L 94
7) chlorodifluoromethane	3.86	51	47029	9.73 ug/L 98
8) dichlorodifluoromethane	3.83	85	42988	10.32 ug/L 99
10) chloromethane	4.17	52	21577	10.33 ug/L 99
11) vinyl chloride	4.40	62	58212	10.47 ug/L 98
12) bromomethane	4.98	94	25767	9.56 ug/L 97
13) chloroethane	5.16	64	26483	10.73 ug/L 98
14) vinyl bromide	5.44	106	37054	10.72 ug/L 99
15) trichlorofluoromethane	5.53	101	49997	10.94 ug/L 97
16) 1,3-butadiene	4.47	54	52266	11.64 ug/L 100
19) ethyl ether	5.88	74	18471	11.12 ug/L 98
20) 2-chloropropane	6.08	39	12275	10.35 ug/L 96
21) acrolein	6.09	56	66622	94.35 ug/L 99
22) 1,1-dichloroethene	6.26	96	29851	10.91 ug/L 98
23) acetone	6.26	58	18346	57.01 ug/L 98
24) allyl chloride	6.71	76	23674	8.93 ug/L 95
25) acetonitrile	6.63	40	20545	104.54 ug/L 91
26) iodomethane	6.52	142	61191	10.56 ug/L 98
27) carbon disulfide	6.62	76	96128	10.91 ug/L 99
28) methylene chloride	6.87	84	33125	10.44 ug/L 99
29) methyl acetate	6.65	74	5229	11.22 ug/L 96
31) methyl tert butyl ether	7.18	73	90614	10.42 ug/L 100
32) trans-1,2-dichloroethene	7.22	96	29830	10.49 ug/L 99
33) di-isopropyl ether	7.69	45	125520	10.35 ug/L 97
34) 2-butanone	8.31	72	19388	53.64 ug/L 92
35) 1,1-dichloroethane	7.74	63	61762	10.75 ug/L 99
36) chloroprene	7.82	53	48835	10.54 ug/L 98
37) acrylonitrile	7.13	53	64312	52.50 ug/L 98
38) vinyl acetate	7.66	86	5936	10.59 ug/L 97
39) ethyl tert-butyl ether	8.11	59	106088	10.37 ug/L 97
40) ethyl acetate	8.31	45	5620	11.19 ug/L 92
41) 2,2-dichloropropane	8.39	77	30586	10.67 ug/L 94

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanh
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	34371	10.47	ug/L	97
43) methylacrylate	8.39	85	4857	10.76	ug/L #	91
44) propionitrile	8.39	54	48375	106.75	ug/L	97
45) bromochloromethane	8.65	128	17336	11.05	ug/L	98
46) tetrahydrofuran	8.66	42	11842	11.04	ug/L	94
47) chloroform	8.71	85	35137	10.04	ug/L	97
48) T-BUTYL FORMATE	8.74	59	24917	10.32	ug/L	88
51) freon 113	6.26	151	24944	11.27	ug/L	99
52) methacrylonitrile	8.56	41	23158	10.23	ug/L	98
53) 1,1,1-trichloroethane	8.96	97	41935	10.47	ug/L	97
54) cyclohexane	9.06	84	43575	10.59	ug/L	94
57) epichlorohydrin	10.87	57	16981	52.53	ug/L	99
58) n-butyl alcohol	9.75	56	57244	579.84	ug/L	92
59) carbon tetrachloride	9.14	117	37405	10.57	ug/L	96
60) 1,1-dichloropropene	9.11	75	43443	10.45	ug/L	97
61) hexane	7.52	57	49403	10.15	ug/L	98
62) Tert Amyl alcohol	9.22	73	8299	50.98	ug/L	99
63) benzene	9.35	78	123977	10.17	ug/L	98
64) iso-octane	9.42	57	131688	10.14	ug/L	98
65) tert-amyl methyl ether	9.40	87	20326	10.85	ug/L	98
66) heptane	9.56	57	29926	10.22	ug/L	98
67) isopropyl acetate	9.23	61	12703	10.16	ug/L	95
68) 1,2-dichloroethane	9.37	62	41239	10.64	ug/L	99
69) trichloroethene	10.02	95	32139	10.61	ug/L	99
71) ethyl acrylate	9.99	55	40116	10.15	ug/L #	78
72) 2-nitropropane	10.75	41	12033	9.76	ug/L	91
73) 2-chloroethyl vinyl ether	10.77	63	105443	51.47	ug/L	99
74) methyl methacrylate	10.24	100	8510	10.12	ug/L #	81
75) 1,2-dichloropropane	10.30	63	35632	10.83	ug/L	96
76) dibromomethane	10.41	93	20049	10.25	ug/L	99
77) methylcyclohexane	10.30	83	53210	10.50	ug/L	97
78) bromodichloromethane	10.55	83	40726	10.37	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	55143	10.51	ug/L	97
81) 4-methyl-2-pentanone	11.09	58	69043	50.81	ug/L	92
82) toluene	11.39	92	76296	9.85	ug/L	98
83) 3-methyl-1-butanol	11.09	55	30240	217.19	ug/L	92
84) trans-1,3-dichloropropene	11.58	75	46838	10.28	ug/L	99
85) ethyl methacrylate	11.55	69	43070	9.79	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	25107	9.96	ug/L	97
87) 2-hexanone	11.97	58	73557	49.86	ug/L	95
89) tetrachloroethene	11.96	164	34187	10.43	ug/L	95
90) 1,3-dichloropropane	12.00	76	48959	9.59	ug/L	97
91) butyl acetate	12.05	56	24160	9.95	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	30740	107.25	ug/L	98
93) dibromochloromethane	12.26	129	31052	10.05	ug/L	99
94) 1,2-dibromoethane	12.43	107	32568	9.84	ug/L	100
95) n-butyl ether	12.88	57	146394	9.70	ug/L	96
96) chlorobenzene	12.94	112	87382	9.75	ug/L	98
97) 1,1,1,2-tetrachloroethane	13.01	131	31450	9.92	ug/L	97
98) ethylbenzene	13.00	91	146562	9.79	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68766.D
 Acq On : 27 Jan 2017 4:25 pm
 Operator : Hueanht
 Sample : ic2825-10
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 16:46:56 2017
 Response via : Initial Calibration

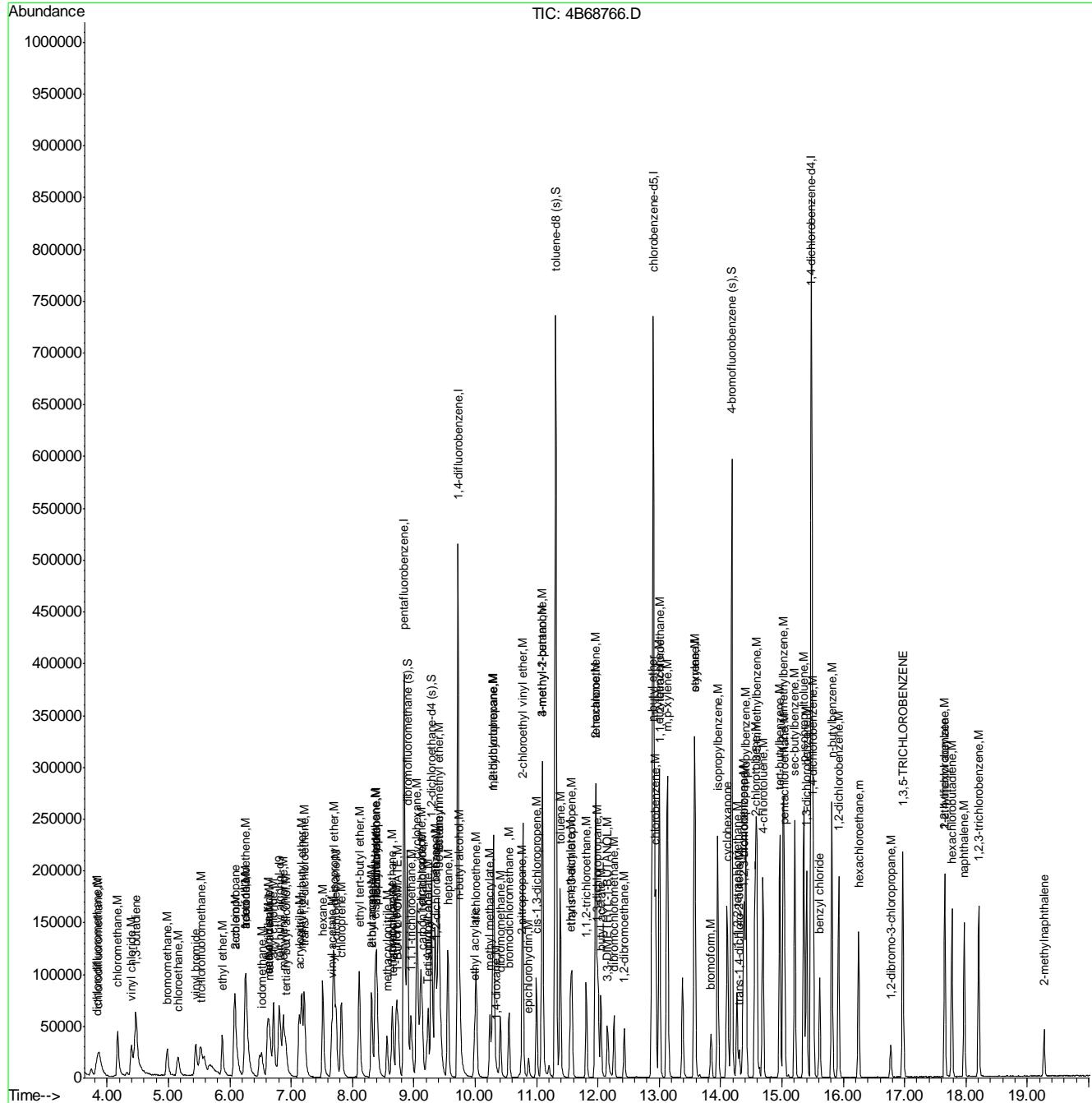
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	115441	19.76	ug/L	97
100) o-xylene	13.57	106	58804	10.13	ug/L	97
101) styrene	13.58	104	99473	9.68	ug/L	98
102) bromoform	13.84	173	20071	7.44	ug/L	98
104) isopropylbenzene	13.95	105	153993	10.12	ug/L	98
106) cyclohexanone	14.11	55	80952	108.12	ug/L	99
107) bromobenzene	14.38	156	44202	9.54	ug/L	97
108) 1,1,2,2-tetrachloroethane	14.27	83	41807	10.05	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	5360	6.77	ug/L	87
110) 1,2,3-trichloropropane	14.37	110	10717	10.32	ug/L	97
111) n-propylbenzene	14.41	91	181923	10.42	ug/L	100
113) 2-chlorotoluene	14.56	126	38731	10.32	ug/L	98
114) 4-chlorotoluene	14.69	91	111100	9.94	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	127860	9.93	ug/L	98
116) tert-butylbenzene	14.96	119	116962	9.96	ug/L	98
117) pentachloroethane	15.04	167	23143	9.45	ug/L	94
118) 1,2,4-trimethylbenzene	15.03	105	132786	10.53	ug/L	98
119) sec-butylbenzene	15.21	105	177326	10.47	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	85029	10.33	ug/L	99
121) p-isopropyltoluene	15.36	119	154668	10.52	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	81120	10.12	ug/L	99
123) benzyl chloride	15.61	91	67931	9.65	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	81391	10.17	ug/L	99
126) n-butylbenzene	15.82	92	81310	10.42	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.77	75	7141	10.18	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.97	180	73514	10.01	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	65329	10.52	ug/L	96
131) hexachlorobutadiene	17.77	225	38366	10.38	ug/L	98
132) naphthalene	17.97	128	116561	10.34	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	56791	10.36	ug/L	100
134) hexachloroethane	16.25	201	25871	9.37	ug/L	95
135) 2-ethylhexyl acrylate	17.66	70	1768	2.53	ug/L #	71
136) 2-methylnaphthalene	19.27	142	24504	8.93	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68766.D
Acq On : 27 Jan 2017 4:25 pm
Operator : Hueanht
Sample : ic2825-10
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jan 27 16:54:20 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 16:46:56 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	121614	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	286866	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	404778	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	367387	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	232497	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	122358	50.56	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	=	101.12%
50) 1,2-dichloroethane-d4 (s)	9.29	65	127674	48.51	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	=	97.02%
80) toluene-d8 (s)	11.31	98	465483	49.77	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	=	99.54%
105) 4-bromofluorobenzene (s)	14.18	95	185784	48.67	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	=	97.34%

Target Compounds

				QValue
2) tertiary butyl alcohol	6.91	59	154792	486.24 ug/L 95
3) 1,4-dioxane	10.35	88	69849	2546.50 ug/L 98
7) chlorodifluoromethane	3.87	51	471135	104.42 ug/L 97
8) dichlorodifluoromethane	3.82	85	408155	104.18 ug/L 99
10) chloromethane	4.17	52	200985	102.26 ug/L 97
11) vinyl chloride	4.40	62	531767	101.51 ug/L 98
12) bromomethane	4.97	94	238296	97.89 ug/L 95
13) chloroethane	5.15	64	239650	102.67 ug/L 99
14) vinyl bromide	5.44	106	336111	102.96 ug/L 100
15) trichlorofluoromethane	5.53	101	459528	102.36 ug/L 99
16) 1,3-butadiene	4.47	54	441254	102.77 ug/L 99
19) ethyl ether	5.88	74	165086	102.16 ug/L 97
20) 2-chloropropane	6.08	39	95819	85.76 ug/L 94
21) acrolein	6.09	56	591648	900.47 ug/L 98
22) 1,1-dichloroethene	6.26	96	269906	101.85 ug/L 97
23) acetone	6.26	58	152041	480.66 ug/L 99
24) allyl chloride	6.71	76	231756	88.93 ug/L 97
25) acetonitrile	6.63	40	174109	940.07 ug/L 94
26) iodomethane	6.52	142	546645	100.04 ug/L 99
27) carbon disulfide	6.62	76	894525	107.12 ug/L 100
28) methylene chloride	6.87	84	295750	98.90 ug/L 97
29) methyl acetate	6.65	74	45952	103.15 ug/L # 89
31) methyl tert butyl ether	7.18	73	785627	95.99 ug/L 100
32) trans-1,2-dichloroethene	7.22	96	263739	98.44 ug/L 99
33) di-isopropyl ether	7.69	45	1052391	92.21 ug/L 99
34) 2-butanone	8.31	72	175124	512.36 ug/L 96
35) 1,1-dichloroethane	7.73	63	515905	95.07 ug/L 100
36) chloroprene	7.82	53	438167	100.29 ug/L 100
37) acrylonitrile	7.13	53	563588	488.23 ug/L 99
38) vinyl acetate	7.66	86	55071	103.83 ug/L 100
39) ethyl tert-butyl ether	8.11	59	944315	98.14 ug/L 98
40) ethyl acetate	8.31	45	49535	100.27 ug/L 96
41) 2,2-dichloropropane	8.39	77	243446	89.98 ug/L 98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
42) cis-1,2-dichloroethene	8.37	96	294496	98.35	ug/L	99
43) methylacrylate	8.39	85	43457	101.46	ug/L	97
44) propionitrile	8.39	54	394068	919.09	ug/L	98
45) bromochloromethane	8.65	128	155280	104.37	ug/L	98
46) tetrahydrofuran	8.66	42	94985	93.11	ug/L	98
47) chloroform	8.71	85	308359	93.95	ug/L	99
48) T-BUTYL FORMATE	8.74	59	242535	103.44	ug/L	99
51) freon 113	6.26	151	230482	101.42	ug/L	97
52) methacrylonitrile	8.56	41	202572	95.23	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	387566	102.74	ug/L	100
54) cyclohexane	9.06	84	381836	98.30	ug/L	94
57) epichlorohydrin	10.87	57	157684	507.71	ug/L	98
58) n-butyl alcohol	9.75	56	426217	4420.99	ug/L	100
59) carbon tetrachloride	9.14	117	340778	100.27	ug/L	99
60) 1,1-dichloropropene	9.11	75	381091	95.55	ug/L	99
61) hexane	7.52	57	457036	98.15	ug/L	99
62) Tert Amyl alcohol	9.21	73	69755	447.58	ug/L	97
63) benzene	9.35	78	1090507	93.49	ug/L	100
64) iso-octane	9.42	57	1176157	94.68	ug/L	99
65) tert-amyl methyl ether	9.40	87	180074	99.72	ug/L	98
66) heptane	9.56	57	273683	92.80	ug/L	99
67) isopropyl acetate	9.24	61	121922	101.92	ug/L	96
68) 1,2-dichloroethane	9.37	62	349986	93.89	ug/L	100
69) trichloroethene	10.02	95	285074	97.90	ug/L	97
71) ethyl acrylate	9.99	55	379222	100.27	ug/L	100
72) 2-nitropropane	10.75	41	113557	96.77	ug/L	86
73) 2-chloroethyl vinyl ether	10.77	63	946153	482.13	ug/L	99
74) methyl methacrylate	10.25	100	85959	106.93	ug/L	90
75) 1,2-dichloropropane	10.30	63	300409	94.78	ug/L	99
76) dibromomethane	10.41	93	181463	96.94	ug/L	94
77) methylcyclohexane	10.30	83	480668	98.84	ug/L	100
78) bromodichloromethane	10.55	83	393131	104.39	ug/L	100
79) cis-1,3-dichloropropene	11.00	75	520590	103.32	ug/L	99
81) 4-methyl-2-pentanone	11.10	58	577883	444.61	ug/L	96
82) toluene	11.39	92	700703	94.91	ug/L	98
83) 3-methyl-1-butanol	11.08	55	248917	1852.61	ug/L	94
84) trans-1,3-dichloropropene	11.58	75	441509	101.19	ug/L	99
85) ethyl methacrylate	11.55	69	408422	102.12	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	233996	99.64	ug/L	99
87) 2-hexanone	11.97	58	612829	458.81	ug/L	98
89) tetrachloroethene	11.96	164	295245	97.46	ug/L	99
90) 1,3-dichloropropane	12.00	76	426524	91.19	ug/L	95
91) butyl acetate	12.05	56	216196	101.08	ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	256300	963.21	ug/L	98
93) dibromochloromethane	12.26	129	336160	118.16	ug/L	100
94) 1,2-dibromoethane	12.43	107	308315	101.42	ug/L	99
95) n-butyl ether	12.88	57	1376448	99.47	ug/L	99
96) chlorobenzene	12.94	112	797384	96.98	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	294892	101.19	ug/L	99
98) ethylbenzene	13.00	91	1298120	94.45	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68767.D
 Acq On : 27 Jan 2017 4:53 pm
 Operator : Hueanht
 Sample : ic2825-100
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Fri Jan 27 17:14:59 2017
 Response via : Initial Calibration

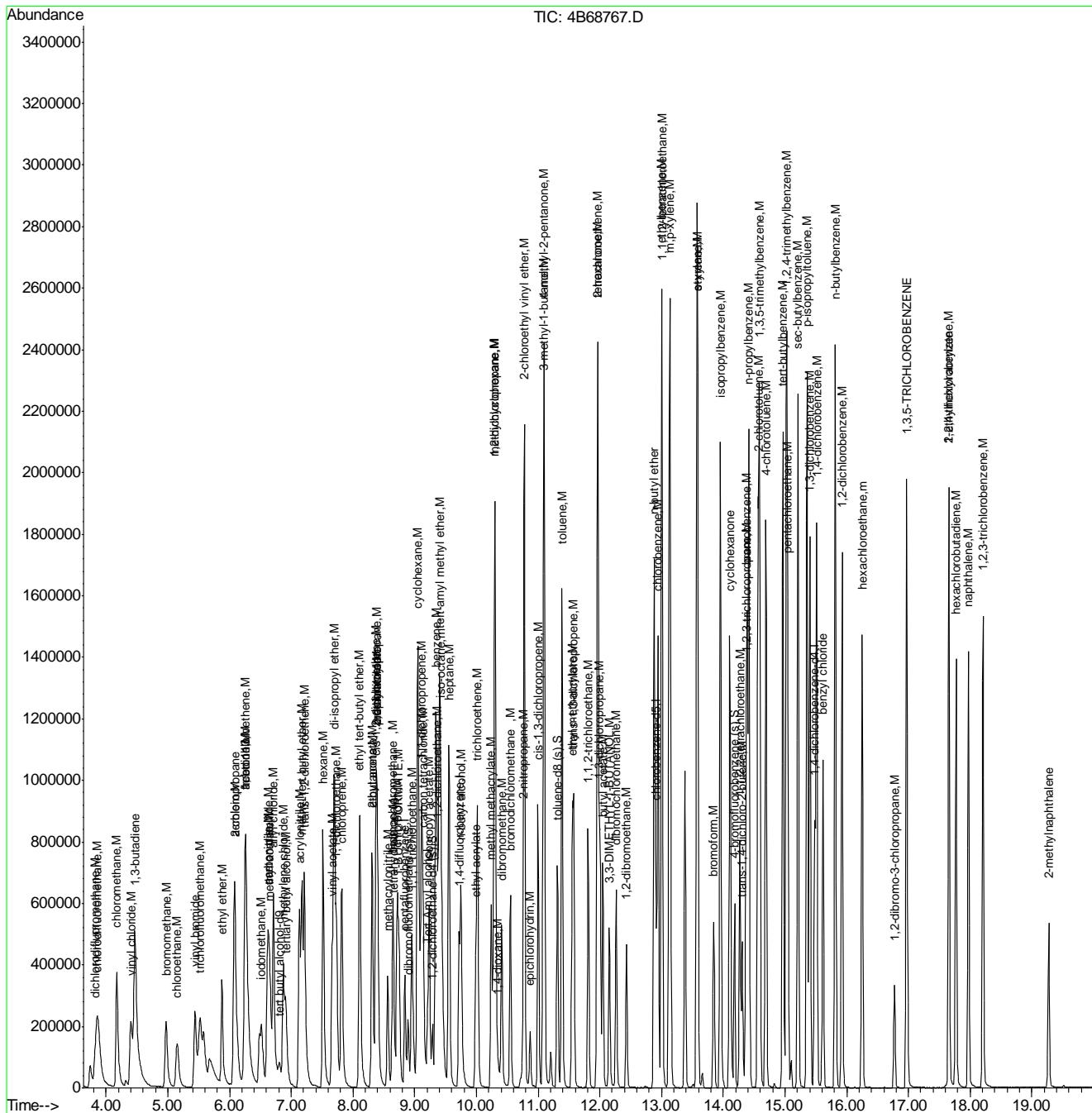
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) m,p-xylene	13.13	106	1054276	196.41	ug/L	98
100) o-xylene	13.57	106	550614	102.96	ug/L	96
101) styrene	13.59	104	901492	95.71	ug/L	95
102) bromoform	13.84	173	260439	100.11	ug/L	98
104) isopropylbenzene	13.95	105	1431244	93.28	ug/L	99
106) cyclohexanone	14.11	55	662451	868.25	ug/L	100
107) bromobenzene	14.39	156	411623	92.40	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	407913	97.25	ug/L	99
109) trans-1,4-dichloro-2-butene	14.30	53	90911	98.30	ug/L	96
110) 1,2,3-trichloropropane	14.37	110	101594	96.69	ug/L	99
111) n-propylbenzene	14.41	91	1653930	93.49	ug/L	100
113) 2-chlorotoluene	14.57	126	369251	96.13	ug/L	99
114) 4-chlorotoluene	14.69	91	1044075	95.27	ug/L	99
115) 1,3,5-trimethylbenzene	14.59	105	1174477	93.25	ug/L	99
116) tert-butylbenzene	14.97	119	1109459	95.75	ug/L	99
117) pentachloroethane	15.05	167	243011	99.31	ug/L	98
118) 1,2,4-trimethylbenzene	15.03	105	1212501	94.72	ug/L	99
119) sec-butylbenzene	15.21	105	1667100	97.06	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	773255	92.79	ug/L	100
121) p-isopropyltoluene	15.36	119	1461342	97.91	ug/L	100
122) 1,4-dichlorobenzene	15.51	146	774486	95.77	ug/L	100
123) benzyl chloride	15.61	91	754474	106.82	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	755425	93.49	ug/L	99
126) n-butylbenzene	15.82	92	773040	97.83	ug/L	99
128) 1,2-dibromo-3-chloropropan	16.77	75	74438	105.05	ug/L	99
129) 1,3,5-TRICHLOROBENZENE	16.97	180	689078	96.93	ug/L	100
130) 1,2,4-trichlorobenzene	17.66	180	631538	100.22	ug/L	99
131) hexachlorobutadiene	17.77	225	336802	90.06	ug/L	98
132) naphthalene	17.97	128	1130331	99.04	ug/L	99
133) 1,2,3-trichlorobenzene	18.21	180	553198	99.66	ug/L	99
134) hexachloroethane	16.25	201	298499	108.49	ug/L	99
135) 2-ethylhexyl acrylate	17.66	70	32504	18.01	ug/L	95
136) 2-methylnaphthalene	19.27	142	302212	111.69	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68767.D
Acq On : 27 Jan 2017 4:53 pm
Operator : Hueanh
Sample : ic2825-100
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 27 17:17:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jan 27 17:14:59 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	112410	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	288696	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	401883	50.00	ug/L	0.00
88) chlorobenzene-d5	12.91	117	371449	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	220768	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.84	168	288696	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	122417	50.21	ug/L	0.00
Spiked Amount	50.000	Range	76 - 120	Recovery	= 100.42%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	128737	48.75	ug/L	0.00
Spiked Amount	50.000	Range	73 - 122	Recovery	= 97.50%	
80) toluene-d8 (s)	11.31	98	463561	49.94	ug/L	0.00
Spiked Amount	50.000	Range	84 - 119	Recovery	= 99.88%	
105) 4-bromofluorobenzene (s)	14.18	95	180304	49.88	ug/L	0.00
Spiked Amount	50.000	Range	78 - 117	Recovery	= 99.76%	

Target Compounds

					Qvalue
2) tertiary butyl alcohol	6.91	59	77268	263.50	ug/L 97
3) 1,4-dioxane	10.34	88	33348	1311.25	ug/L 97
7) chlorodifluoromethane	3.85	51	209496	45.88	ug/L 97
8) dichlorodifluoromethane	3.82	85	211995	53.52	ug/L 98
10) chloromethane	4.18	52	111269	56.13	ug/L 98
11) vinyl chloride	4.40	62	270163	51.17	ug/L 99
12) bromomethane	4.98	94	125410	51.33	ug/L 99
13) chloroethane	5.16	64	114167	48.46	ug/L 98
14) vinyl bromide	5.45	106	168139	51.03	ug/L 99
15) trichlorofluoromethane	5.51	101	236199	52.13	ug/L 100
16) 1,3-butadiene	4.47	54	193052	44.51	ug/L 100
19) ethyl ether	5.88	74	83992	51.51	ug/L 97
20) 2-chloropropane	6.08	39	45231	40.95	ug/L 96
21) acrolein	6.09	56	295195	451.42	ug/L 98
22) 1,1-dichloroethene	6.25	96	145101	54.29	ug/L 94
23) acetone	6.26	58	78944	249.20	ug/L 96
24) allyl chloride	6.71	76	210302	92.58	ug/L # 68
25) acetonitrile	6.63	40	82534	445.77	ug/L 96
26) iodomethane	6.48	142	233324	42.43	ug/L 99
27) carbon disulfide	6.61	76	358470	42.32	ug/L 100
28) methylene chloride	6.87	84	149093	49.60	ug/L 97
29) methyl acetate	6.65	74	22841	50.72	ug/L # 86
31) methyl tert butyl ether	7.18	73	797117	97.17	ug/L 99
32) trans-1,2-dichloroethene	7.22	96	133429	49.57	ug/L 99
33) di-isopropyl ether	7.70	45	558906	49.04	ug/L 99
34) 2-butanone	8.31	72	85747	248.60	ug/L 98
35) 1,1-dichloroethane	7.73	63	271598	49.98	ug/L 99
36) chloroprene	7.82	53	225876	51.36	ug/L 99
37) acrylonitrile	7.13	53	284224	245.24	ug/L 98
38) vinyl acetate	7.66	86	26703	49.75	ug/L 92
39) ethyl tert-butyl ether	8.11	59	494222	51.13	ug/L 99
40) ethyl acetate	8.31	45	27023	54.33	ug/L 89

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) 2,2-dichloropropane	8.39	77	124618	46.23	ug/L	99
42) cis-1,2-dichloroethene	8.37	96	152676	50.76	ug/L	99
43) methylacrylate	8.39	85	21922	50.75	ug/L	97
44) propionitrile	8.39	54	200269	468.87	ug/L	97
45) bromochloromethane	8.65	128	80486	53.52	ug/L	97
46) tetrahydrofuran	8.66	42	48009	47.17	ug/L	98
47) chloroform	8.71	85	158435	48.29	ug/L	98
48) T-BUTYL FORMATE	8.75	59	85792	36.20	ug/L	96
51) freon 113	6.26	151	135431	59.08	ug/L	98
52) methacrylonitrile	8.56	41	100022	46.97	ug/L	98
53) 1,1,1-trichloroethane	8.95	97	186061	48.88	ug/L	99
54) cyclohexane	9.05	84	166031	42.55	ug/L	# 63
57) epichlorohydrin	10.87	57	73315	237.36	ug/L	98
58) n-butyl alcohol	9.75	56	194035	2055.29	ug/L	100
59) carbon tetrachloride	9.14	117	167556	49.64	ug/L	98
60) 1,1-dichloropropene	9.11	75	199149	50.52	ug/L	98
61) hexane	7.52	57	112903	24.47	ug/L	99
62) Tert Amyl alcohol	9.21	73	63682	417.02	ug/L	83
63) benzene	9.35	78	564425	49.06	ug/L	99
64) iso-octane	9.42	57	566184	46.15	ug/L	98
65) tert-amyl methyl ether	9.40	87	95377	53.21	ug/L	93
66) heptane	9.56	57	145554	50.16	ug/L	97
67) isopropyl acetate	9.24	61	61503	51.66	ug/L	96
68) 1,2-dichloroethane	9.37	62	180220	49.00	ug/L	99
69) trichloroethene	10.02	95	149303	51.75	ug/L	98
71) ethyl acrylate	9.99	55	185142	49.29	ug/L	99
72) 2-nitropropane	10.75	41	56765	48.92	ug/L	94
73) 2-chloroethyl vinyl ether	10.77	63	504999	260.12	ug/L	100
74) methyl methacrylate	10.24	100	39697	49.31	ug/L	# 87
75) 1,2-dichloropropane	10.30	63	156369	49.95	ug/L	100
76) dibromomethane	10.41	93	92328	49.83	ug/L	96
77) methylcyclohexane	10.30	83	241908	50.16	ug/L	98
78) bromodichloromethane	10.55	83	199371	53.09	ug/L	99
79) cis-1,3-dichloropropene	11.00	75	265363	52.87	ug/L	98
81) 4-methyl-2-pentanone	11.09	58	294828	231.03	ug/L	99
82) toluene	11.39	92	359760	49.33	ug/L	99
83) 3-methyl-1-butanol	11.08	55	112468	850.05	ug/L	98
84) trans-1,3-dichloropropene	11.57	75	224511	51.76	ug/L	96
85) ethyl methacrylate	11.55	69	200025	50.24	ug/L	98
86) 1,1,2-trichloroethane	11.81	83	118517	50.85	ug/L	98
87) 2-hexanone	11.97	58	303498	231.24	ug/L	100
89) tetrachloroethene	11.96	164	165487	54.17	ug/L	99
90) 1,3-dichloropropane	12.00	76	218328	46.58	ug/L	99
91) butyl acetate	12.05	56	106597	49.23	ug/L	98
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	108609	405.36	ug/L	98
93) dibromochloromethane	12.27	129	164600	56.20	ug/L	100
94) 1,2-dibromoethane	12.43	107	153000	49.71	ug/L	100
95) n-butyl ether	12.88	57	701233	50.15	ug/L	100
96) chlorobenzene	12.94	112	408445	49.28	ug/L	99
97) 1,1,1,2-tetrachloroethane	13.01	131	149535	50.69	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68770.D
 Acq On : 27 Jan 2017 6:19 pm
 Operator : Hueanh
 Sample : icv2825-50
 Misc : MS11826,V4B2825,W,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

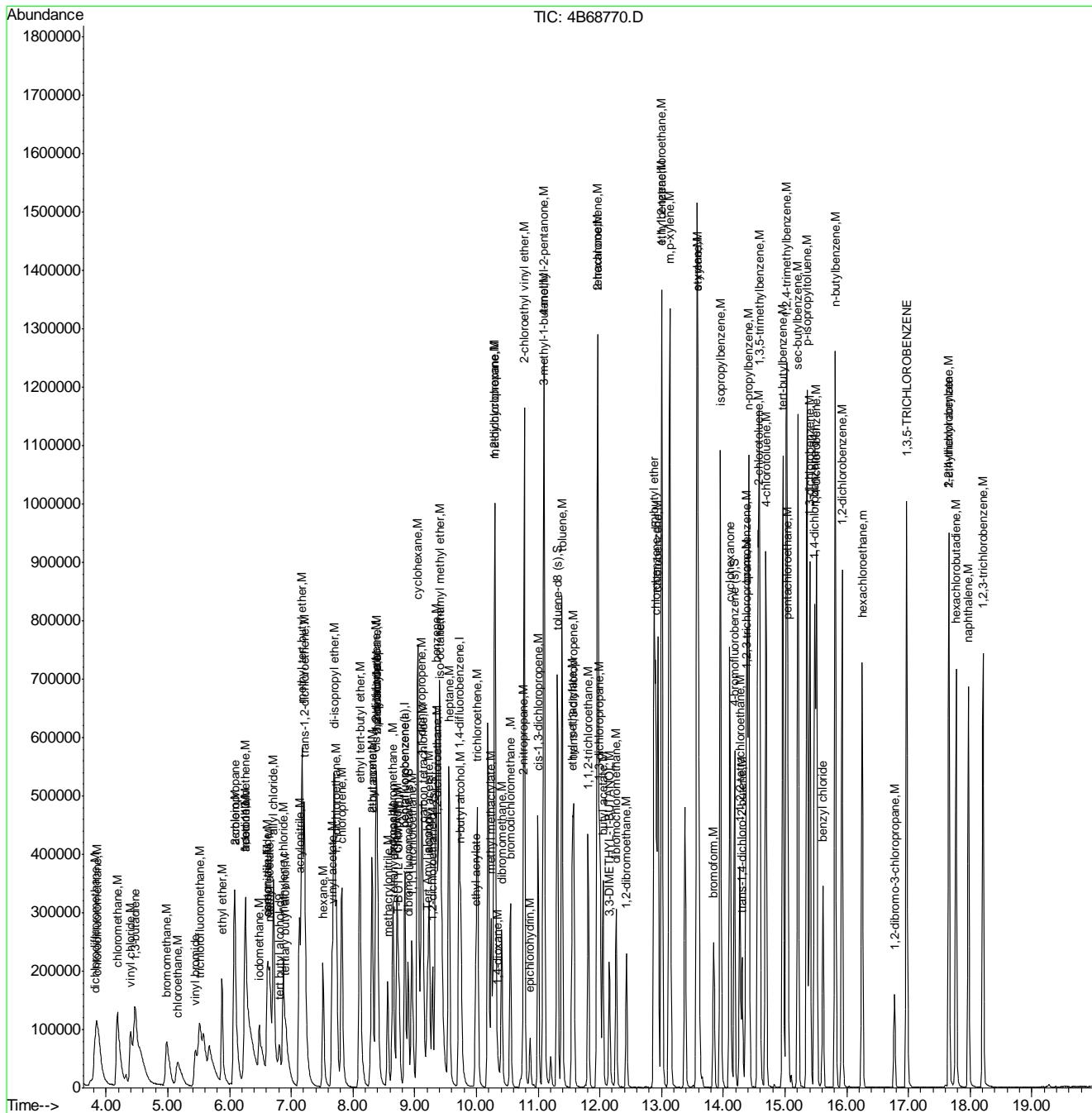
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
98) ethylbenzene	13.00	91	674095	48.78	ug/L	99
99) m,p-xylene	13.13	106	536172	98.97	ug/L	98
100) o-xylene	13.57	106	277637	51.20	ug/L	99
101) styrene	13.59	104	460446	48.56	ug/L	94
102) bromoform	13.84	173	119636	47.92	ug/L	99
104) isopropylbenzene	13.95	105	720187	49.76	ug/L	100
106) cyclohexanone	14.11	55	330790	464.23	ug/L	100
107) bromobenzene	14.39	156	206006	49.12	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	193792	48.82	ug/L	98
109) trans-1,4-dichloro-2-butene	14.30	53	42573	49.53	ug/L	98
110) 1,2,3-trichloropropane	14.37	110	48532	48.84	ug/L	100
111) n-propylbenzene	14.41	91	829669	49.79	ug/L	100
113) 2-chlorotoluene	14.57	126	183133	50.42	ug/L	99
114) 4-chlorotoluene	14.69	91	519508	50.22	ug/L	100
115) 1,3,5-trimethylbenzene	14.59	105	588827	49.61	ug/L	99
116) tert-butylbenzene	14.97	119	555088	50.69	ug/L	99
117) pentachloroethane	15.05	167	104654	45.08	ug/L	98
118) 1,2,4-trimethylbenzene	15.03	105	609579	50.48	ug/L	99
119) sec-butylbenzene	15.21	105	839356	51.66	ug/L	100
120) 1,3-dichlorobenzene	15.40	146	388125	49.50	ug/L	99
121) p-isopropyltoluene	15.36	119	730366	51.67	ug/L	99
122) 1,4-dichlorobenzene	15.51	146	383477	50.21	ug/L	100
123) benzyl chloride	15.61	91	243262	36.00	ug/L	100
124) 1,2-dichlorobenzene	15.93	146	385238	50.62	ug/L	99
126) n-butylbenzene	15.82	92	388561	51.91	ug/L	100
128) 1,2-dibromo-3-chloropropan	16.77	75	35739	52.73	ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.97	180	350338	52.10	ug/L	99
130) 1,2,4-trichlorobenzene	17.66	180	313178	52.32	ug/L	98
131) hexachlorobutadiene	17.77	225	170593	48.58	ug/L	99
132) naphthalene	17.97	128	542940	50.16	ug/L	100
133) 1,2,3-trichlorobenzene	18.21	180	270681	51.38	ug/L	98
134) hexachloroethane	16.25	201	143456	54.25	ug/L	99
135) 2-ethylhexyl acrylate	17.66	70	12119	8.03	ug/L	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B68770.D
Acq On : 27 Jan 2017 6:19 pm
Operator : Hueanht
Sample : icv2825-50
Misc : MS11826,V4B2825,W,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 31 17:15:20 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
 Data File : 4B68840.D
 Acq On : 31 Jan 2017 4:10 am
 Operator : Hueanht
 Sample : icv2825-50
 Misc : MS12037,V4B2828,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 31 17:11:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.81	65	137634	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	268903	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.72	114	379394	50.00	ug/L	0.00
88) chlorobenzene-d5	12.90	117	359007	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.48	152	206994	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.84	168	268903	50.00	ug/L	0.00

System Monitoring Compounds

49) dibromofluoromethane (s)	8.89	113	118337	52.11	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	=	104.22%	
50) 1,2-dichloroethane-d4 (s)	9.29	65	134264	54.58	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	=	109.16%	
80) toluene-d8 (s)	11.31	98	441419	50.38	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	=	100.76%	
105) 4-bromofluorobenzene (s)	14.18	95	170984	50.45	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	=	100.90%	

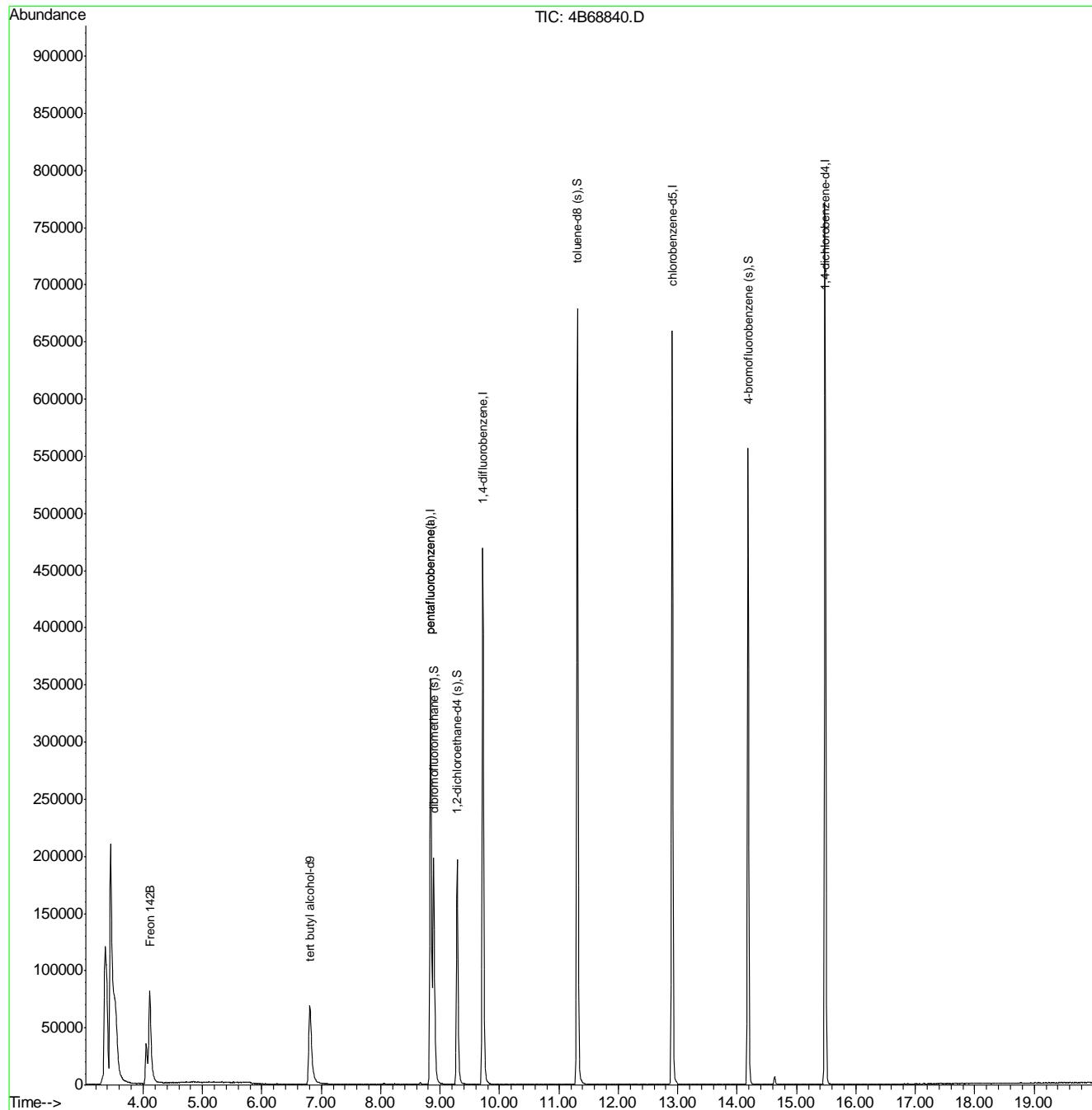
Target Compounds				Qvalue
138) Freon 142B		4.11	65	112975 42.55 ug/L 89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
 Data File : 4B68840.D
 Acq On : 31 Jan 2017 4:10 am
 Operator : Hueanht
 Sample : icv2825-50
 Misc : MS12037,V4B2828,W,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 31 17:11:55 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69352.D
 Acq On : 16 Feb 2017 9:44 am
 Operator : Hueanht
 Sample : cc2825-20
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 17 12:02:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	118963	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	278792	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	387728	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	372183	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215613	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	278792	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	122521	52.04	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 104.08%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	136579	53.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 107.12%		
80) toluene-d8 (s)	11.310	98	453218	50.61	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 101.22%		
105) 4-bromofluorobenzene (s)	14.182	95	178449	50.54	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 101.08%		
Target Compounds						
2) tertiary butyl alcohol	6.901	59	31919	102.85	ug/L	93
3) 1,4-dioxane	10.337	88	13712	509.46	ug/L	93
7) chlorodifluoromethane	3.852	51	102307	23.20	ug/L	98
8) dichlorodifluoromethane	3.820	85	74161	19.39	ug/L	97
10) chloromethane	4.187	52	37278	19.47	ug/L	94
11) vinyl chloride	4.396	62	91739	17.99	ug/L	99
12) bromomethane	4.982	94	53312	22.59	ug/L	92
13) chloroethane	5.159	64	48456	21.30	ug/L	98
14) vinyl bromide	5.452	106	61297	19.26	ug/L	99
15) trichlorofluoromethane	5.515	101	85944	19.64	ug/L	99
16) 1,3-butadiene	4.443	54	77060	18.40	ug/L	94
19) ethyl ether	5.876	74	32672	20.75	ug/L	93
20) 2-chloropropane	6.075	39	19190	17.99	ug/L	83
21) acrolein	6.085	56	116869	185.07	ug/L	99
22) 1,1-dichloroethene	6.253	96	53645	20.79	ug/L	98
23) acetone	6.258	58	25330	82.80	ug/L	99
24) allyl chloride	6.708	76	80167	34.75	ug/L	# 61
25) acetonitrile	6.624	40	40681	227.53	ug/L	97
26) iodomethane	6.483	142	86873	16.36	ug/L	99
27) carbon disulfide	6.608	76	141333	17.28	ug/L	99
28) methylene chloride	6.870	84	60361	20.79	ug/L	96
29) methyl acetate	6.650	74	8897	20.46	ug/L	# 82
31) methyl tert butyl ether	7.173	73	159127	20.09	ug/L	97
32) trans-1,2-dichloroethene	7.215	96	53487	20.57	ug/L	94
33) di-isopropyl ether	7.696	45	230109	20.91	ug/L	98
34) 2-butanone	8.308	72	31310	94.00	ug/L	91
35) 1,1-dichloroethane	7.727	63	109740	20.91	ug/L	100
36) chloroprene	7.816	53	91248	21.48	ug/L	95
37) acrylonitrile	7.131	53	113888	101.76	ug/L	99
38) vinyl acetate	7.665	86	9887	19.08	ug/L	87
39) ethyl tert-butyl ether	8.109	59	188510	20.20	ug/L	100
40) ethyl acetate	8.308	45	9969	20.76	ug/L	86
41) 2,2-dichloropropane	8.397	77	53606	20.59	ug/L	99
42) cis-1,2-dichloroethene	8.371	96	61403	21.14	ug/L	99
43) methylacrylate	8.392	85	8226	19.72	ug/L	# 85
44) propionitrile	8.381	54	84695	205.33	ug/L	81
45) bromochloromethane	8.643	128	31014	21.36	ug/L	97
46) tetrahydrofuran	8.658	42	19395	19.73	ug/L	99
47) chloroform	8.711	85	64713	20.42	ug/L	98
48) T-BUTYL FORMATE	8.742	59	43952	19.21	ug/L	91
51) freon 113	6.242	151	37388	16.89	ug/L	98
52) methacrylonitrile	8.559	41	40143	19.52	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	75382	20.51	ug/L	96
54) cyclohexane	9.056	84	65049	17.26	ug/L	83

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69352.D
 Acq On : 16 Feb 2017 9:44 am
 Operator : Hueanht
 Sample : cc2825-20
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 17 12:02:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.866	57	30017	100.73	ug/L	97
58) n-butyl alcohol	9.746	56	91185	1001.12	ug/L	96
59) carbon tetrachloride	9.134	117	67399	20.70	ug/L	96
60) 1,1-dichloropropene	9.108	75	79247	20.84	ug/L	97
61) hexane	7.518	57	91128	20.47	ug/L	98
62) Tert Amyl alcohol	9.202	73	12716	86.31	ug/L	93
63) benzene	9.344	78	223361	20.12	ug/L	99
64) iso-octane	9.417	57	237775	20.09	ug/L	97
65) tert-amyl methyl ether	9.396	87	35638	20.61	ug/L	98
66) heptane	9.553	57	59886	21.39	ug/L	98
67) isopropyl acetate	9.234	61	25744	22.41	ug/L	98
68) 1,2-dichloroethane	9.370	62	77732	21.90	ug/L	99
69) trichloroethene	10.013	95	57954	20.82	ug/L	98
71) ethyl acrylate	9.987	55	68910	19.02	ug/L	99
72) 2-nitropropane	10.751	41	23033	20.57	ug/L	84
73) 2-chloroethyl vinyl ether	10.771	63	188977	100.89	ug/L	98
74) methyl methacrylate	10.243	100	14859	19.13	ug/L	96
75) 1,2-dichloropropane	10.301	63	64873	21.48	ug/L	97
76) dibromomethane	10.405	93	37298	20.87	ug/L	98
77) methylcyclohexane	10.301	83	96029	20.64	ug/L	100
78) bromodichloromethane	10.547	83	80771	22.29	ug/L	96
79) cis-1,3-dichloropropene	10.996	75	100922	20.84	ug/L	92
81) 4-methyl-2-pentanone	11.096	58	120517	97.89	ug/L	95
82) toluene	11.383	92	138208	19.64	ug/L	99
83) 3-methyl-1-butanol	11.085	55	54220	424.77	ug/L	94
84) trans-1,3-dichloropropene	11.577	75	86458	20.66	ug/L	98
85) ethyl methacrylate	11.551	69	72916	18.98	ug/L	96
86) 1,1,2-trichloroethane	11.807	83	46615	20.73	ug/L	99
87) 2-hexanone	11.969	58	115565	91.27	ug/L	94
89) tetrachloroethylene	11.959	164	57406	18.75	ug/L	97
90) 1,3-dichloropropane	12.001	76	90856	19.34	ug/L	98
91) butyl acetate	12.048	56	41434	19.10	ug/L	96
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	49822	185.58	ug/L	98
93) dibromochloromethane	12.262	129	62812	21.41	ug/L	99
94) 1,2-dibromoethane	12.429	107	59091	19.16	ug/L	99
95) n-butyl ether	12.879	57	249857	17.83	ug/L	98
96) chlorobenzene	12.937	112	157587	18.98	ug/L	100
97) 1,1,1,2-tetrachloroethane	13.005	131	59624	20.17	ug/L	93
98) ethylbenzene	12.999	91	267571	19.33	ug/L	98
99) m,p-xylene	13.130	106	205163	37.80	ug/L	94
100) o-xylene	13.570	106	105353	19.39	ug/L	96
101) styrene	13.585	104	178961	18.84	ug/L	96
102) bromoform	13.842	173	44156	18.15	ug/L	99
104) isopropylbenzene	13.951	105	276687	19.58	ug/L	99
106) cyclohexanone	14.108	55	52843	75.93	ug/L	98
107) bromobenzene	14.386	156	79997	19.53	ug/L	96
108) 1,1,2,2-tetrachloroethane	14.265	83	78758	20.32	ug/L	98
109) trans-1,4-dichloro-2-b...	14.302	53	7134	9.85	ug/L	92
110) 1,2,3-trichloropropane	14.365	110	19072	19.65	ug/L	99
111) n-propylbenzene	14.412	91	333306	20.48	ug/L	99
113) 2-chlorotoluene	14.563	126	68376	19.28	ug/L	86
114) 4-chlorotoluene	14.689	91	202754	20.07	ug/L	98
115) 1,3,5-trimethylbenzene	14.589	105	232032	20.02	ug/L	99
116) tert-butylbenzene	14.966	119	212200	19.84	ug/L	97
117) pentachloroethane	15.039	167	48433	21.36	ug/L	96
118) 1,2,4-trimethylbenzene	15.024	105	241885	20.51	ug/L	99
119) sec-butylbenzene	15.212	105	317269	19.99	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	153412	20.03	ug/L	98
121) p-isopropyltoluene	15.358	119	281603	20.40	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	148921	19.96	ug/L	100
123) benzyl chloride	15.615	91	124697	18.89	ug/L	98
124) 1,2-dichlorobenzene	15.923	146	150738	20.28	ug/L	99
126) n-butylbenzene	15.813	92	151193	20.68	ug/L	95

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69352.D
 Acq On : 16 Feb 2017 9:44 am
 Operator : Hueanht
 Sample : cc2825-20
 Misc : MS12524,V4B2855,5,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 17 12:02:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

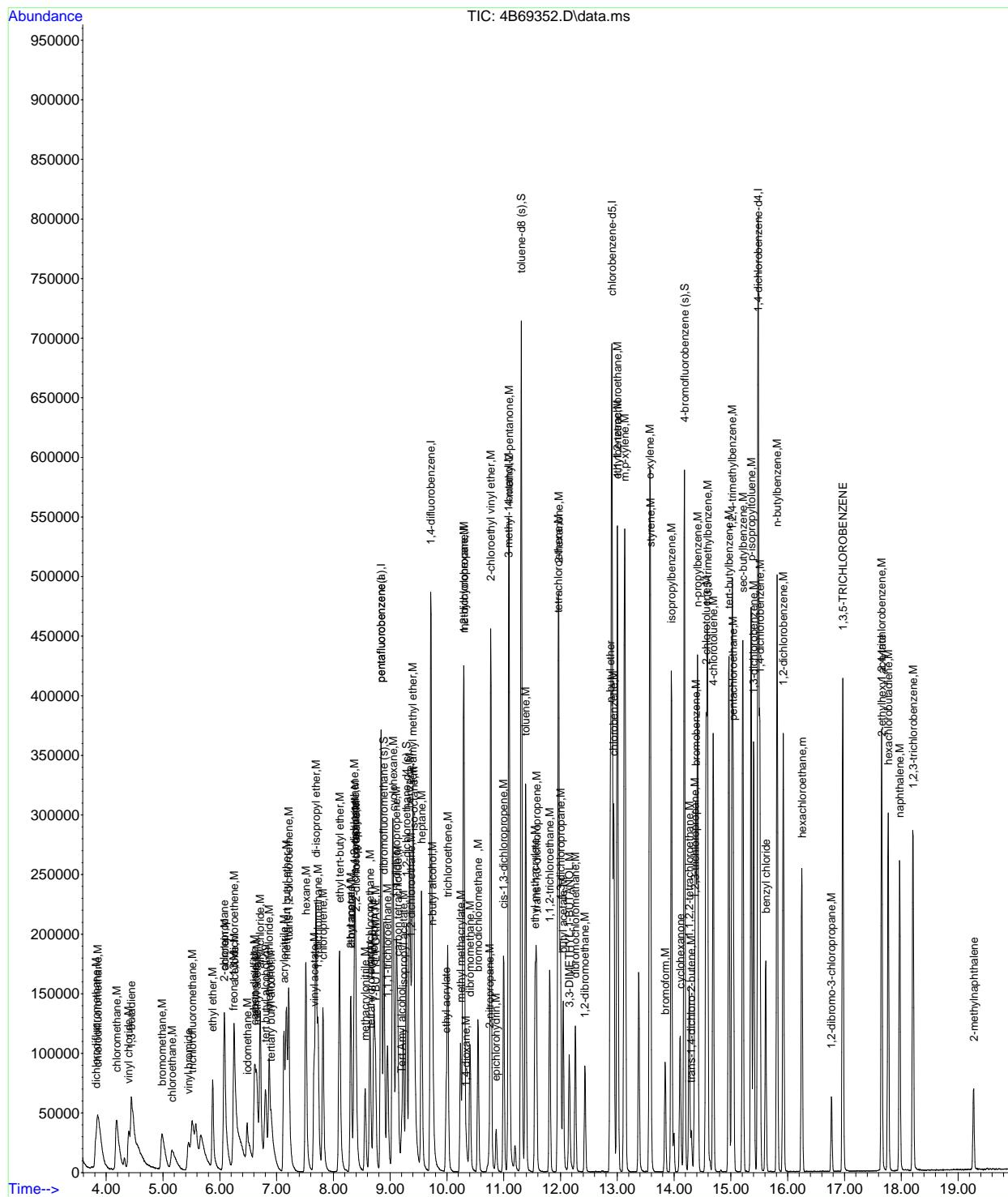
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.770	75	13811	20.87	ug/L	91
129) 1,3,5-TRICHLOROBENZENE	16.969	180	138185	21.04	ug/L	100
130) 1,2,4-trichlorobenzene	17.654	180	118929	20.34	ug/L	99
131) hexachlorobutadiene	17.769	225	68833	20.07	ug/L	99
132) naphthalene	17.973	128	205231	19.41	ug/L	100
133) 1,2,3-trichlorobenzene	18.209	180	101099	19.65	ug/L	99
134) hexachloroethane	16.253	201	49283	19.08	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	3687	3.41	ug/L	78
136) 2-methylnaphthalene	19.276	142	37495	14.66	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69352.D
 Acq On : 16 Feb 2017 9:44 am
 Operator : Hueanh
 Sample : cc2825-20
 Misc : MS12524,V4B2855,5,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 17 12:02:54 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69375.D
 Acq On : 16 Feb 2017 8:51 pm
 Operator : Hueanht
 Sample : cc2825-50
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 17 12:31:42 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	115466	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	270373	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	380211	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	360040	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	212124	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	270373	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	120217	52.65	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery =	105.30%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	129414	52.33	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery =	104.66%		
80) toluene-d8 (s)	11.310	98	442488	50.39	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery =	100.78%		
105) 4-bromofluorobenzene (s)	14.182	95	177293	51.04	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery =	102.08%		
Target Compounds						
2) tertiary butyl alcohol	6.906	59	77326	256.71	ug/L	91
3) 1,4-dioxane	10.337	88	31928	1222.19	ug/L	97
7) chlorodifluoromethane	3.862	51	249106	58.26	ug/L	98
8) dichlorodifluoromethane	3.821	85	182244	49.13	ug/L	99
10) chloromethane	4.176	52	90992	49.01	ug/L	95
11) vinyl chloride	4.396	62	224960	45.50	ug/L	98
12) bromomethane	4.982	94	130203	56.90	ug/L	97
13) chloroethane	5.159	64	115029	52.13	ug/L	99
14) vinyl bromide	5.447	106	152790	49.51	ug/L	98
15) trichlorofluoromethane	5.526	101	217859	51.34	ug/L	96
19) ethyl ether	5.876	74	80733	52.87	ug/L	91
20) 2-chloropropane	6.075	39	44165	42.70	ug/L	76
21) acrolein	6.085	56	300935	491.39	ug/L	99
22) 1,1-dichloroethene	6.247	96	136464	54.52	ug/L	97
23) acetone	6.258	58	61052	205.78	ug/L	97
24) allyl chloride	6.708	76	225637	107.40	ug/L	# 58
25) acetonitrile	6.624	40	101361	584.56	ug/L	97
26) iodomethane	6.483	142	216951	42.13	ug/L	94
27) carbon disulfide	6.613	76	336081	42.36	ug/L	99
28) methylene chloride	6.870	84	149153	52.98	ug/L	98
29) methyl acetate	6.655	74	21893	51.91	ug/L	# 92
31) methyl tert butyl ether	7.173	73	390014	50.76	ug/L	99
32) trans-1,2-dichloroethene	7.215	96	129744	51.46	ug/L	95
33) di-isopropyl ether	7.691	45	532890	49.93	ug/L	98
34) 2-butanone	8.303	72	80692	249.80	ug/L	97
35) 1,1-dichloroethane	7.727	63	260807	51.25	ug/L	100
36) chloroprene	7.816	53	217817	52.88	ug/L	96
37) acrylonitrile	7.131	53	272964	251.48	ug/L	99
38) vinyl acetate	7.659	86	26474	52.67	ug/L	97
39) ethyl tert-butyl ether	8.109	59	457664	50.56	ug/L	99
40) ethyl acetate	8.308	45	24424	52.44	ug/L	98
41) 2,2-dichloropropane	8.392	77	118466	46.93	ug/L	97
42) cis-1,2-dichloroethene	8.371	96	147311	52.29	ug/L	99
43) methylacrylate	8.386	85	21323	52.71	ug/L	98
44) propionitrile	8.381	54	202258	505.62	ug/L	85
45) bromochloromethane	8.643	128	77264	54.86	ug/L	98
46) tetrahydrofuran	8.658	42	48027	50.38	ug/L	98
47) chloroform	8.711	85	157159	51.15	ug/L	99
48) T-BUTYL FORMATE	8.737	59	113444	51.11	ug/L	96
51) freon 113	6.258	151	101288	47.18	ug/L	99
52) methacrylonitrile	8.559	41	100878	50.58	ug/L	98
53) 1,1,1-trichloroethane	8.957	97	187236	52.52	ug/L	99
54) cyclohexane	9.056	84	163160	44.65	ug/L	84
57) epichlorohydrin	10.866	57	75270	257.57	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69375.D
 Acq On : 16 Feb 2017 8:51 pm
 Operator : Hueanht
 Sample : cc2825-50
 Misc : MS12539,V4B2855,5,,,1
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 17 12:31:42 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
58) n-butyl alcohol	9.746	56	216046	2418.88	ug/L	100
59) carbon tetrachloride	9.134	117	165425	51.80	ug/L	99
60) 1,1-dichloropropene	9.108	75	189024	50.68	ug/L	99
61) hexane	7.513	57	219996	50.39	ug/L	99
62) Tert Amyl alcohol	9.208	73	32989	228.34	ug/L #	93
63) benzene	9.344	78	539212	49.54	ug/L	99
64) iso-octane	9.417	57	567834	48.93	ug/L	94
65) tert-amyl methyl ether	9.396	87	87273	51.47	ug/L	99
66) heptane	9.553	57	145006	52.82	ug/L	98
67) isopropyl acetate	9.234	61	59509	52.83	ug/L	95
68) 1,2-dichloroethane	9.370	62	183790	52.81	ug/L	100
69) trichloroethene	10.013	95	144537	52.96	ug/L	99
71) ethyl acrylate	9.987	55	179625	50.55	ug/L	88
72) 2-nitropropane	10.751	41	57840	52.69	ug/L	89
73) 2-chloroethyl vinyl ether	10.771	63	472275	257.13	ug/L	100
74) methyl methacrylate	10.238	100	39655	52.06	ug/L	95
75) 1,2-dichloropropane	10.301	63	154175	52.06	ug/L	100
76) dibromomethane	10.405	93	91735	52.33	ug/L	99
77) methylcyclohexane	10.296	83	231585	50.75	ug/L	97
78) bromodichloromethane	10.547	83	198543	55.88	ug/L	100
79) cis-1,3-dichloropropene	10.996	75	251134	52.88	ug/L	96
81) 4-methyl-2-pentanone	11.091	58	301132	249.42	ug/L	95
82) toluene	11.383	92	339208	49.16	ug/L	100
83) 3-methyl-1-butanol	11.080	55	134886	1077.60	ug/L	98
84) trans-1,3-dichloropropene	11.577	75	216552	52.77	ug/L	99
85) ethyl methacrylate	11.551	69	192521	51.11	ug/L	99
86) 1,1,2-trichloroethane	11.807	83	117578	53.33	ug/L	98
87) 2-hexanone	11.969	58	297996	239.99	ug/L	97
89) tetrachloroethene	11.959	164	140241	47.36	ug/L	98
90) 1,3-dichloropropane	12.001	76	217263	47.82	ug/L	99
91) butyl acetate	12.048	56	103350	49.24	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	132435	509.95	ug/L	98
93) dibromochloromethane	12.262	129	161711	56.97	ug/L	97
94) 1,2-dibromoethane	12.429	107	151174	50.67	ug/L	99
95) n-butyl ether	12.879	57	629232	46.42	ug/L	100
96) chlorobenzene	12.937	112	391104	48.68	ug/L	99
97) 1,1,2-tetrachloroethane	13.010	131	145940	51.04	ug/L	98
98) ethylbenzene	13.000	91	645059	48.16	ug/L	100
99) m,p-xylene	13.130	106	503278	95.84	ug/L	98
100) o-xylene	13.570	106	265139	50.44	ug/L	100
101) styrene	13.585	104	433667	47.19	ug/L	96
102) bromoform	13.842	173	118560	48.97	ug/L	98
104) isopropylbenzene	13.951	105	682796	49.10	ug/L	100
106) cyclohexanone	14.103	55	83226	121.56	ug/L	97
107) bromobenzene	14.386	156	199490	49.50	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.265	83	200696	52.62	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	30546	37.40	ug/L	96
110) 1,2,3-trichloropropane	14.365	110	49587	51.94	ug/L	100
111) n-propylbenzene	14.412	91	792107	49.48	ug/L	99
113) 2-chlorotoluene	14.563	126	173933	49.84	ug/L	96
114) 4-chlorotoluene	14.689	91	498210	50.13	ug/L	99
115) 1,3,5-trimethylbenzene	14.584	105	558216	48.94	ug/L	100
116) tert-butylbenzene	14.966	119	523704	49.77	ug/L	99
117) pentachloroethane	15.045	167	119780	53.70	ug/L	99
118) 1,2,4-trimethylbenzene	15.024	105	583240	50.27	ug/L	99
119) sec-butylbenzene	15.207	105	781617	50.06	ug/L	100
120) 1,3-dichlorobenzene	15.400	146	370287	49.15	ug/L	99
121) p-isopropyltoluene	15.353	119	686803	50.57	ug/L	99
122) 1,4-dichlorobenzene	15.510	146	369433	50.34	ug/L	99
123) benzyl chloride	15.609	91	303549	46.75	ug/L	99
124) 1,2-dichlorobenzene	15.923	146	373095	51.02	ug/L	99
126) n-butylbenzene	15.813	92	361908	50.32	ug/L	98
128) 1,2-dibromo-3-chlorop...	16.771	75	37985	58.33	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
 Data File : 4B69375.D
 Acq On : 16 Feb 2017 8:51 pm
 Operator : Hueanht
 Sample : cc2825-50
 Misc : MS12539,V4B2855,5,,,,1
 ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 17 12:31:42 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Thu Feb 16 08:29:28 2017
 Response via : Initial Calibration

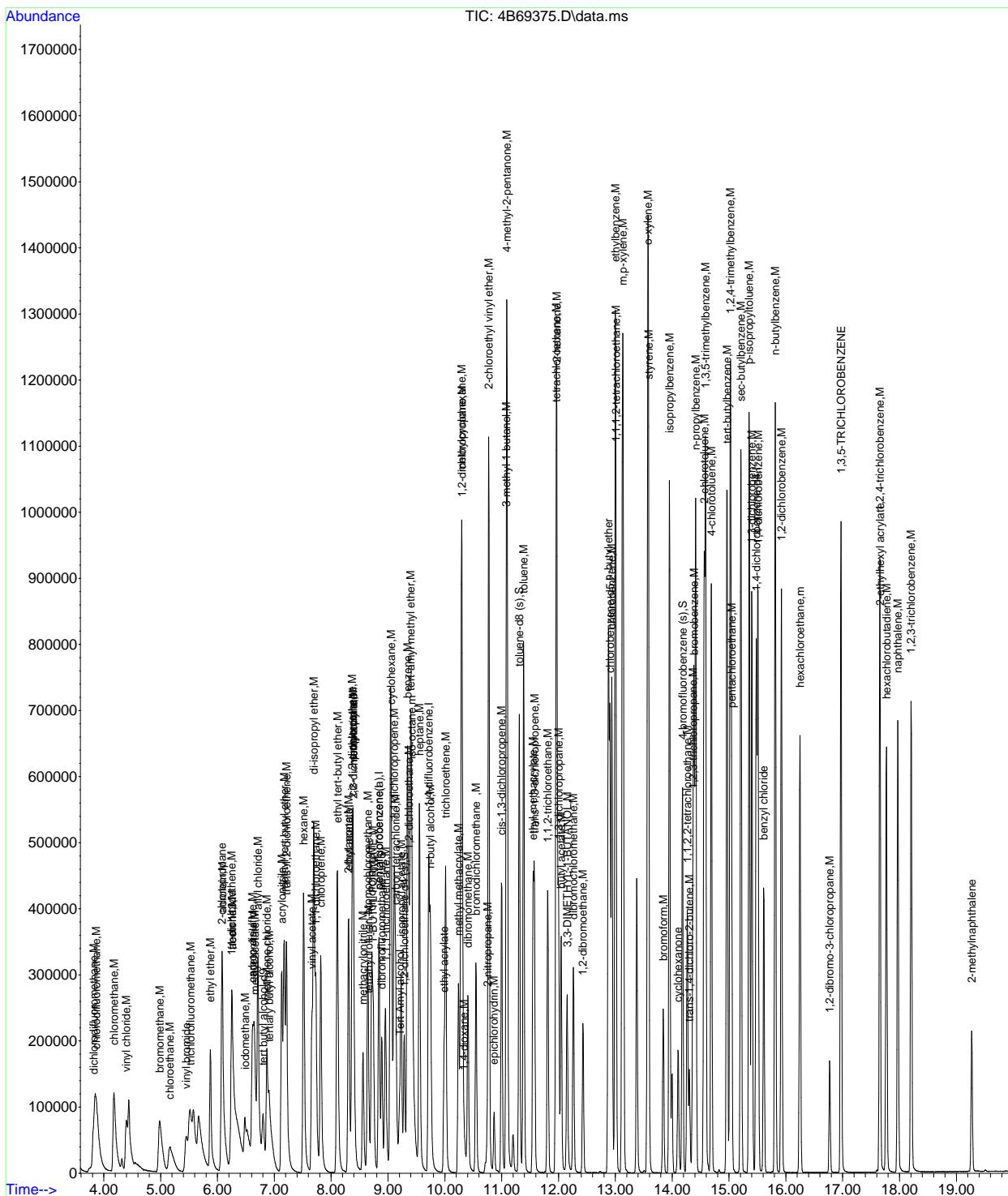
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
129) 1,3,5-TRICHLOROBENZENE	16.969	180	334340	51.75	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	293756	51.08	ug/L	100
131) hexachlorobutadiene	17.770	225	152950	45.33	ug/L	97
132) naphthalene	17.968	128	538482	51.78	ug/L	99
133) 1,2,3-trichlorobenzene	18.204	180	253036	49.98	ug/L	99
134) hexachloroethane	16.248	201	127904	50.34	ug/L	99
135) 2-ethylhexyl acrylate	17.660	70	14208	9.50	ug/L	98
136) 2-methylnaphthalene	19.271	142	115576	45.92	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855
Data File : 4B69375.D
Acq On : 16 Feb 2017 8:51 pm
Operator : Hueanh
Sample : cc2825-50
Misc : MS12539,V4B2855,5,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Feb 17 12:31:42 2017
Quant Method : C:\MSDCHEM1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69386.D
 Acq On : 17 Feb 2017 9:42 am
 Operator : Hueanht
 Sample : cc2825-20
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 20 16:54:49 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.802	65	131643	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	267437	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	381062	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	361875	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	212166	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	267437	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	121030	53.59	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 107.18%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	135296	55.31	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 110.62%		
80) toluene-d8 (s)	11.310	98	442497	50.28	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 100.56%		
105) 4-bromofluorobenzene (s)	14.181	95	176268	50.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 101.48%		
Target Compounds						
2) tertiary butyl alcohol	6.906	59	34192	99.56	ug/L	98
3) 1,4-dioxane	10.342	88	14508	487.12	ug/L	89
7) chlorodifluoromethane	3.867	51	90927	21.50	ug/L	98
8) dichlorodifluoromethane	3.826	85	63180	17.22	ug/L	98
10) chloromethane	4.171	52	34030	18.53	ug/L	95
11) vinyl chloride	4.396	62	90313	18.47	ug/L	99
12) bromomethane	4.976	94	51835	22.90	ug/L	99
13) chloroethane	5.149	64	48626	22.28	ug/L	100
14) vinyl bromide	5.436	106	64084	20.99	ug/L	98
15) trichlorofluoromethane	5.525	101	85874	20.46	ug/L	99
16) 1,3-butadiene	4.464	54	82947	20.65	ug/L	98
19) ethyl ether	5.871	74	30601	20.26	ug/L	93
20) 2-chloropropane	6.075	39	21125	20.65	ug/L	90
21) acrolein	6.085	56	116790	192.80	ug/L	97
22) 1,1-dichloroethene	6.258	96	50476	20.39	ug/L	99
23) acetone	6.258	58	26858	91.52	ug/L	96
24) allyl chloride	6.707	76	35668	15.74	ug/L	89
25) acetonitrile	6.624	40	41312	240.87	ug/L	99
26) iodomethane	6.509	142	107043	21.01	ug/L	99
27) carbon disulfide	6.619	76	172571	21.99	ug/L	98
28) methylene chloride	6.870	84	58152	20.88	ug/L	95
29) methyl acetate	6.650	74	9389	22.50	ug/L	# 73
31) methyl tert butyl ether	7.173	73	150616	19.82	ug/L	96
32) trans-1,2-dichloroethene	7.215	96	51727	20.74	ug/L	96
33) di-isopropyl ether	7.691	45	226294	21.43	ug/L	97
34) 2-butanone	8.308	72	33060	103.47	ug/L	# 91
35) 1,1-dichloroethane	7.727	63	106289	21.11	ug/L	98
36) chloroprene	7.816	53	88606	21.75	ug/L	95
37) acrylonitrile	7.126	53	111182	103.56	ug/L	100
38) vinyl acetate	7.665	86	10776	21.67	ug/L	94
39) ethyl tert-butyl ether	8.109	59	185255	20.69	ug/L	99
40) ethyl acetate	8.308	45	10483	22.75	ug/L	84
41) 2,2-dichloropropane	8.392	77	55859	22.37	ug/L	96
42) cis-1,2-dichloroethene	8.371	96	57739	20.72	ug/L	96
43) methylacrylate	8.392	85	8163	20.40	ug/L	# 88
44) propionitrile	8.381	54	84985	214.78	ug/L	83
45) bromochloromethane	8.643	128	29496	21.17	ug/L	97
46) tetrahydrofuran	8.658	42	19384	20.56	ug/L	97
47) chloroform	8.711	85	63008	20.73	ug/L	99
48) T-BUTYL FORMATE	8.737	59	46240	21.06	ug/L	91
51) freon 113	6.258	151	41667	19.62	ug/L	90
52) methacrylonitrile	8.559	41	39596	20.07	ug/L	96
53) 1,1,1-trichloroethane	8.951	97	76338	21.65	ug/L	98
54) cyclohexane	9.056	84	71491	19.78	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
 Data File : 4B69386.D
 Acq On : 17 Feb 2017 9:42 am
 Operator : Hueanht
 Sample : cc2825-20
 Misc : MS12539,V4B2856,5,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 20 16:54:49 2017
 Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
 Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
 QLast Update : Tue Jan 31 16:58:58 2017
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
57) epichlorohydrin	10.865	57	32067	109.49	ug/L	96
58) n-butyl alcohol	9.746	56	101259	1131.18	ug/L	96
59) carbon tetrachloride	9.134	117	67729	21.16	ug/L	95
60) 1,1-dichloropropene	9.108	75	75465	20.19	ug/L	98
61) hexane	7.518	57	81031	18.52	ug/L	97
62) Tert Amyl alcohol	9.207	73	14198	98.06	ug/L	95
63) benzene	9.343	78	213681	19.59	ug/L	99
64) iso-octane	9.411	57	221502	19.04	ug/L	96
65) tert-amyl methyl ether	9.396	87	35419	20.84	ug/L	97
66) heptane	9.553	57	48840	17.75	ug/L	94
67) isopropyl acetate	9.228	61	23309	20.65	ug/L	97
68) 1,2-dichloroethane	9.370	62	74342	21.32	ug/L	99
69) trichloroethene	10.013	95	56587	20.69	ug/L	99
71) ethyl acrylate	9.987	55	66544	18.68	ug/L	99
72) 2-nitropropane	10.756	41	23460	21.32	ug/L	# 16
73) 2-chloroethyl vinyl ether	10.771	63	194497	105.66	ug/L	99
74) methyl methacrylate	10.243	100	14518	19.02	ug/L	98
75) 1,2-dichloropropane	10.301	63	62126	20.93	ug/L	99
76) dibromomethane	10.405	93	36875	20.99	ug/L	95
77) methylcyclohexane	10.295	83	87121	19.05	ug/L	99
78) bromodichloromethane	10.546	83	76318	21.43	ug/L	99
79) cis-1,3-dichloropropene	10.996	75	97563	20.50	ug/L	95
81) 4-methyl-2-pentanone	11.090	58	126216	104.31	ug/L	90
82) toluene	11.383	92	131441	19.01	ug/L	98
83) 3-methyl-1-butanol	11.085	55	64194	511.70	ug/L	93
84) trans-1,3-dichloropropene	11.577	75	83005	20.18	ug/L	97
85) ethyl methacrylate	11.551	69	70825	18.76	ug/L	95
86) 1,1,2-trichloroethane	11.812	83	44916	20.33	ug/L	97
87) 2-hexanone	11.969	58	124582	100.11	ug/L	93
89) tetrachloroethylene	11.959	164	53412	17.95	ug/L	94
90) 1,3-dichloropropane	12.000	76	86909	19.03	ug/L	99
91) butyl acetate	12.047	56	42553	20.17	ug/L	97
92) 3,3-DIMETHYL-1-BUTANOL	12.152	57	61724	236.47	ug/L	97
93) dibromochloromethane	12.262	129	59483	20.85	ug/L	98
94) 1,2-dibromoethane	12.429	107	57283	19.10	ug/L	100
95) n-butyl ether	12.879	57	241225	17.71	ug/L	98
96) chlorobenzene	12.937	112	151904	18.81	ug/L	97
97) 1,1,1,2-tetrachloroethane	13.010	131	57123	19.88	ug/L	97
98) ethylbenzene	12.999	91	257282	19.11	ug/L	99
99) m,p-xylene	13.130	106	196885	37.30	ug/L	95
100) o-xylene	13.570	106	102394	19.38	ug/L	99
101) styrene	13.585	104	171952	18.61	ug/L	99
102) bromoform	13.841	173	41059	17.39	ug/L	99
104) isopropylbenzene	13.951	105	264599	19.03	ug/L	98
106) cyclohexanone	14.108	55	53382	77.95	ug/L	98
107) bromobenzene	14.380	156	77912	19.33	ug/L	98
108) 1,1,2,2-tetrachloroethane	14.265	83	77201	20.24	ug/L	99
109) trans-1,4-dichloro-2-b...	14.302	53	8493	11.58	ug/L	95
110) 1,2,3-trichloropropene	14.365	110	19291	20.20	ug/L	96
111) n-propylbenzene	14.412	91	319708	19.97	ug/L	98
113) 2-chlorotoluene	14.563	126	67429	19.32	ug/L	92
114) 4-chlorotoluene	14.689	91	198300	19.95	ug/L	98
115) 1,3,5-trimethylbenzene	14.584	105	225585	19.78	ug/L	98
116) tert-butylbenzene	14.966	119	202474	19.24	ug/L	97
117) pentachloroethane	15.039	167	46956	21.05	ug/L	99
118) 1,2,4-trimethylbenzene	15.024	105	235660	20.31	ug/L	99
119) sec-butylbenzene	15.207	105	305860	19.59	ug/L	99
120) 1,3-dichlorobenzene	15.400	146	149739	19.87	ug/L	98
121) p-isopropyltoluene	15.353	119	272041	20.03	ug/L	100
122) 1,4-dichlorobenzene	15.510	146	145297	19.79	ug/L	99
123) benzyl chloride	15.609	91	132665	20.43	ug/L	98
124) 1,2-dichlorobenzene	15.923	146	147827	20.21	ug/L	97
126) n-butylbenzene	15.813	92	145088	20.17	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\

Data File : 4B69386.D

Acq On : 17 Feb 2017 9:42 am

Operator : Hueanht

Sample : cc2825-20

Misc : MS12539,V4B2856,5,,,,1

ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 20 16:54:49 2017

Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M

Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

QLast Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

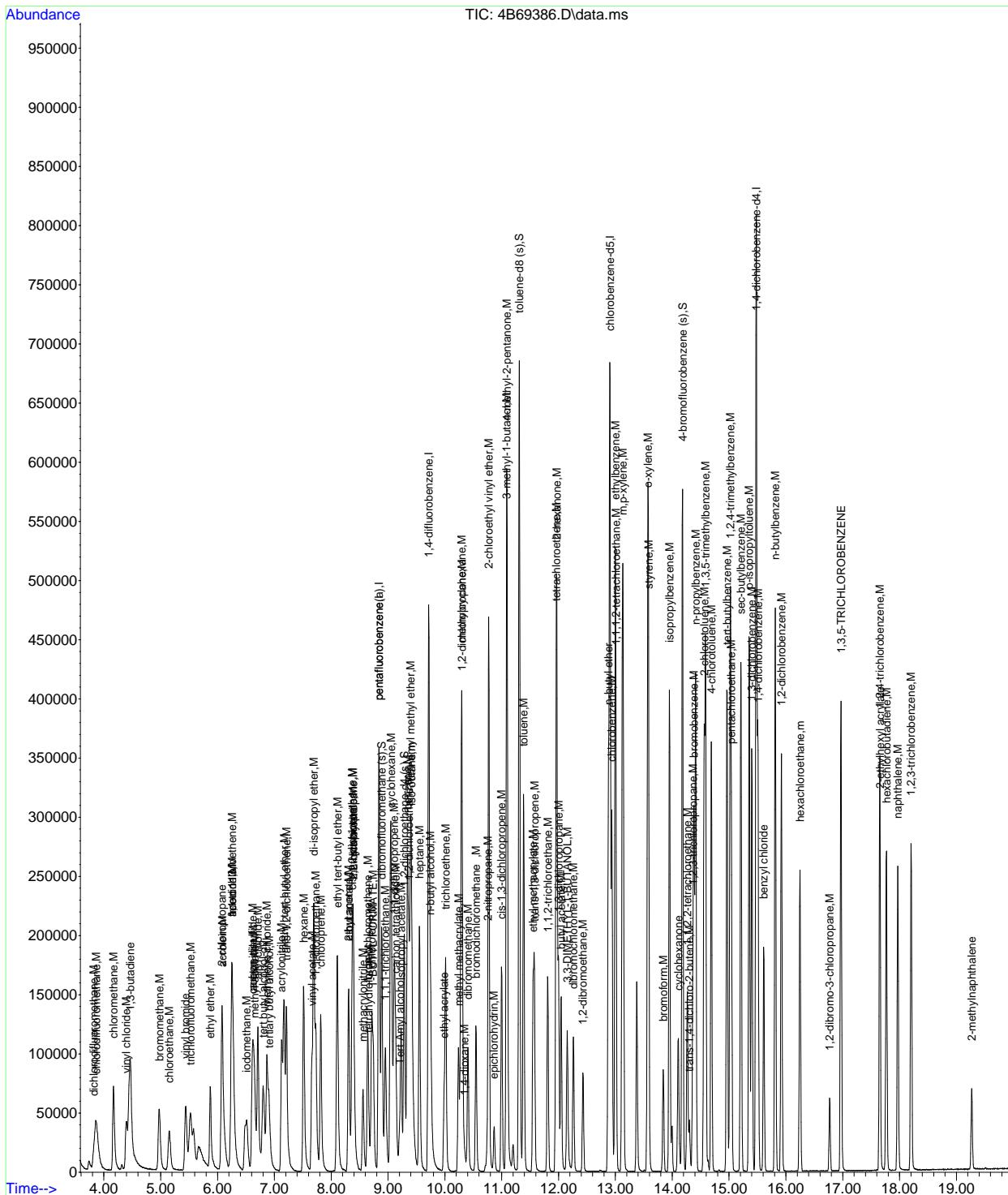
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) 1,2-dibromo-3-chloropr...	16.770	75	13962	21.44	ug/L	90
129) 1,3,5-TRICHLOROBENZENE	16.969	180	133950	20.73	ug/L	99
130) 1,2,4-trichlorobenzene	17.654	180	113354	19.71	ug/L	99
131) hexachlorobutadiene	17.769	225	64416	19.09	ug/L	99
132) naphthalene	17.968	128	197783	19.01	ug/L	99
133) 1,2,3-trichlorobenzene	18.203	180	97036	19.16	ug/L	99
134) hexachloroethane	16.247	201	48398	19.04	ug/L	98
135) 2-ethylhexyl acrylate	17.660	70	3241	3.19	ug/L #	72
136) 2-methylnaphthalene	19.270	142	37070	14.73	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57
Data File : 4B69386.D
Acq On : 17 Feb 2017 9:42 am
Operator : Hueanh
Sample : cc2825-20
Misc : MS12539,V4B2856,5,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 20 16:54:49 2017
Quant Method : C:\MSDCHEM1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



Date: 01/27/2017

VOLATILE ANALYSIS LOG

VOLG-2417 80 715 250 1500PPM
VOLG-2417- 69.2 1,38TD 180PPM

Standard Data

Lot #	Description	Conc.
01G-2477	62,39	EXT A
01G-2477	61,36	EXT B
01G-2477	111,2	EXT C
01G-2477	47,12	EXT E
01G-2477	79,5	Hex

Standard Data

Lot #	Description	Conc.
016-2417-	86.20	A 100 ppm
016-2417-	67.29	B 100 ppm
016-2417-	125.5	C 100 ppm
016-2417-	66.37	E 100-1000 ppm
016-2417-	NO.16	Ketone 400 ppm

Batch ID: ✓4B 2925

Print Analyst Name: Heath Tami

Analyst Signature: *[Signature]*

Columns: Rxi 624 Sil (60m x 0.25mm x 1.4μm)

Method V260C

Initial Cal. Method

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria in Appendix A.

Supervisor Signature: _____ Date: _____

R	Data File	Sample ID	Test #	M/T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt (ul)	Secondary dilution	L +	I S	S U	Status (Data)	Comments	pH* <2
	HB 68755	BF3	:											OK 1104um	
	68756	TC 2825 - 2	BB60C initial	A	Q			5						OK 2ML A,B,C,E,K,1,3 BTD / 10mL	
	68757	TC 2825 - 20	✓	A	Q			5						OK 10uL A,B,C,E,K,1,3 BTD / 50uL	
	68758	TC 2825 - 50	✓	A	Q			5						OK 25uL A,B,C,E,K,1,3 BTD / 50uL	
	68759	TC 2825 #200	✓	A	Q			5						OK 10uL A,B,C,E,K,1,3 BTD / 50uL	
	68760	IB													
	68761	IB													
	68762	TC 2825 - 0.2	✓	A	Q			5						OK 1 uL A,B,C,E,K,1,3 BTD / 500uL	
	68763	TC 2825 - 0.5	✓	A	Q			5						OK 2.5 uL A,B,C,E,K,1,3 BTD / 500uL	
	68764	TC 2825 - 1	✓	A	Q			5						OK 1 uL A,B,C,E,K,1,3 BTD / 100uL	
	68765	TC 2825 - 5	✓	A	Q			5						OK 5 uL A,B,C,E,K,1,3 BTD / 100uL	
	68766	TC 2825 - 10	✓	A	Q			5						OK 10 uL A,B,C,E,K,1,3 BTD / 100uL	
	68767	TC 2825 - 100	✓	A	Q			5						OK 1.50 uL A,B,C,E,K,1,3 BTD / 50uL	
	68768	IB													
	68769	IB													
	68770	TCV285 - 50	✓	A	Q			5						OK 25 uL A,B,C,E BTD Keton 1,3 BTD / 50uL	
	68771	IB												OK no hexane pass in future	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (uL) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied. If blank, leave blank.

miscalculation; 4 = analyst's correction error

1 = analyst's correction error; 2 = transcription error; 3 = computer

10. The following table shows the number of hours worked by each employee.

Form: OR001-10
Rev. Date: 1/19/16

203

VOLATILE ANALYSIS LOG

Date: 01/30/2017

Standard Data

Standard Data		
Lot #	Description	Conc.
V016-2411-123.2	Fracn 142B	180 ppm
016-2411-130.1	Fracn 142B	180 ppm

Standard Data		
Lot #	Description	Conc.
	A	
	B	
	C	
	D	
	E	
	1301P	119.31P

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Acceptance.

Batch ID: V4B 2828

Print Analyst Name: Hughes Tran

Analyst Signature: 

Columns: R6 624 S/L (60m x 0.5m x 1.4m)

Method V3260C

Initial Cal. Method MAB 282X5

and verified to comply with the criteria of Accutest

Supervisor Signature: _____  **Date:** 7/11/13

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-10
Rev. Date: 1/19/16

245

Date: 12/16/2017

VOLATILE ANALYSIS LOG

VOL6-2417-134 4/S 250 2500 ppm
VOL6-2417-101, 21 Ketones 400 ppm

Standard Data		
Lot #	Description	Conc.
016-2417-128, 24	A	100 ppm
017-2417-1, 3	B	100 ppm
016-2417-143, 3	C	100 ppm
016-2417-113, 38	E	100 ppm
216315	DH paper	100 ppm

Standard Data		
Lot #	Description	Conc.
V016-2417-116, 26	EXT A	100 ppm
016-2417-124, 27	EXT B	100 ppm
016-2417-148, 3	EXT C	100 ppm
017-2417-03, 10	EXT E	100 (100) ppm
016-2417-147, 7	Hex	100 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature:

Date: 12/16/17

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + I S U	Status (Data)	Comments	pH* <2
	4B64351	BFB	:										
	69352	CC2825-20											
	69353	MB											
D	69354	BS											
L	69355	JC37044-24	12524	BIXM	G W	3	150		20x			✓	
	69356	JC37020-16	12539	SL	G W	1	5						
	69357	JC37020-16			G W	1	150		1x				
	69358	JC3702045			G W	1	5		1x				
	69359	JC37020-17			G W	2	5		1x				
R	69360	JC37044-15	12524	BIXM	G W	4	150		10x				
	69361	BB											
P	69362	JC37047-28	12524	BIXM	G W	5	5						
R	69363	JC37047-25			G W	5	5		1x				
	69364	JC37020-18	12539	SL	G W	2	5		1x				
	69365	JC37020-14			G W	1	5		1x				
	69366	JC37020-12			G W	2	5		1x				
	69367	JC37020-11			G W	3	5		1x				

X = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Multiple Amt = Volume (ML) or Weight (g); MOH amt = volume (ul) extract injected * IF pH > 2, comment on sample result. Strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer calculation; 4 = analyst's correction error

: OR001-10
Date: 1/19/16

Batch ID: V4B 2855 + 12/17

Print Analyst Name: Jueach Tran

Analyst Signature:

Columns: 24 624 SIL (60m x 0.25m ml x 1.4)

Method V8260C

Initial Cal. Method M4B 2825

Date: 12/17

7.8.3

295

VOLATILE ANALYSIS LOG

Date: 02/16/2017

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	Pg 295	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Batch ID: VAB 295

Print Analyst Name: Thread Train

Analyst Signature: hml

Columns: P/N 624 SIL (60mV, 1.5mmx14')

Method V8260C

Initial Cal. Method NAB 2925

7.8.3
7

Supervisor Signature:

Date: 2/17/17

R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (mL or g)	MOH amt. (uL)	Secondary dilution	L + I S U	Status (Data)	Comments	pH* <2
	AB 69368	JC37020-40	12535	G SL	W	1	5		1x	✓	OK	UTEQC	✓
	69 369	JC37020-4	✓	G SL	W	1	5		1x	✓	OK	✓	✓
	69 370	JC37047-27	12524 BTXM	G BTXM	W	5	10/50		5x	✓	OK	OK/RR HOLD	✓
	69 371	JC37020-16 NS	12535 SL	G SL	W	8	5		1x	✓	OK	100uL TET ABCIE Hex, K	OK
	69 372	JC37020-1GMSD	✓	G SL	W	2	5		1x	✓	OK	Y	✓
R	69 373	JC37047-24	12524 BTXM	G BTXM	W	3	0.25/50		200x	✓	OK	7:53pm	✓
	69 374	BBB2										8:21 pm	
	69 375	C2725-50										100uL ABCIE, K 50uL	
	69 376	BB MB2											
	69 377	JC37020-2	12535 SL	G SL	W	1	5		1x	✓	OK	UTEQC	✓
	69 378	JC37020-13	✓	G SL	W	2	5		1x	✓	OK	✓	✓
	69 379	JC37020-49	✓	G SL	W	1	5		1x	✓	OK	✓	✓
	69 380	JC37020-17	✓	G SL	W	1	5		1x	✓	OK	✓	✓
	69 381	JC37020-9	✓	G SL	W	2	5		1x	✓	OK	✓	✓
	69 382	JC37020-3	✓	G SL	W	1	5		1x	✓	OK	✓ 12:10am	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (uL) extract injected * IF pH > 2, comment on sample result.

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

205

297

Form: OR001-10
Rev. Date: 1/19/16

VOLATILE ANALYSIS LOG

Date: 02/17/2017

Standard Data

216315 RH paper

Batch ID: V4B 2850

Print Analyst Name: Hannah Tran

Analyst Signature:

Columns: Rxi 624 SL (60mx0.25mmx1.4m)

Method V3260C

Initial Cal. Method M 4B 2825

Initial Cal. Method M4B 2825
and verified to comply with the criteria of Accutest

Manually integrated chromatographic peaks in the following reportable files have been reviewed and are included in the current release. Initial Cal. Method M 4B 2825
SOP EQA044.

Supervisor Signature:

b- Date: 2/26/17

Standard Data			Standard Data			Analyst Signature:							
Lot #	Description	Conc.	Lot #	Description	Conc.								
016-2417-116,35	EXT A	100 ppm	016-2417-128,24	A	100 ppm								
016-2417-124,21	EXT B	100 ppm	017-2417-1,3	B	100 ppm								
016-2417-148,6	EXT C	100 ppm	017-2417-08,48	C	100 ppm								
017-2451-05,8	EXT E	100-1000 ppm	016-2417-113,5	E	100-1000 ppm								
016-2417-147,15	Hex	100 ppm	016-2417-134	HS	250 ppm								
Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.													
Supervisor Signature:			Date: 2/20/17										
R	Data File	Sample ID	Test	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L + I S U	Status (Data)	Comments	pH* <2
	AB 69385	BFB	:										
	69386	CC 2825-20											
	69387	NB											
	69388	BS											
	69389	JC 37230-3	12612 TCL20+	G W	3		1/50					9.14 gm	
	69390	JC 37230-4		G W	2		5		50x			10 µl A,B,C,E,I/K 1/50 ml	
	69391	JC 37230-5		G W	2		5		1x			✓	
	69392	JC 37230-6		G W	2		5		1x			✓	
R	69393	JC 37230-7		G W	2		5		1x			✓	
R	69394	JC 37230-3		G W	3		5		1x			✓	
R	69395	JC 37047-27	125,24 BTXN	G W	6		5		1x			not report V4B-6937047 to Robert ✓	
	69396	JC 37230-5	12612 MS-TCL20+	G W	3		5		1x			✓	
	69397	JB											
	69398	JC 37230-4DUP		G W	3		5		1x			✓	
	69399	JC 36999-1	125,00 TCL20+	G W	2		5		1x			✓	
	69400	JC 36999-2		G W	2		5		1x			✓	
	69401	JC 36999-3		G W	2		5		1x			✓	

MTX = Matrix Designate W for water, S for soil, O for oil. **L+** = Library Search. **IS** = Internal Standard Area. **SU** = Surrogate. **Sample Amt** = Volume (ML) or Weight (g); **MOH amt.** = volume (ul) extract injected * IF pH > 2, comment on sample result
~~All strike outs must be initialed, dated and reason code applied as follows:~~

must be initiated, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer calculation; 4 = analyst's correction error.

Form: OR001-10
Rev. Date: 1/19/16

VOLATILE ANALYSIS LOG

Batch ID: V4B 2856

Date: 02/17/2017

Print Analyst Name: Huiearth Team

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
PQ1		

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature:

Date: 2/21/17

7.8.4

R	Data File	Sample ID	Test #	M T X	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L	I	S	U	Status (Data)	Comments	pH* <2
	AB 69 402	JC37020-4	12530	SL	G W	2	5		x	W	W	W	W	W	WTCQC	✓
	69 403	JC37020-5		✓	G W		5		x	W	W	W	W	W	✓	✓
	69 404	JC37020-6		✓	G W	2	5		x	W	W	W	W	W	✓	✓
	69 405	JC37020-7		✓	G W	2	5		x	W	W	W	W	W	✓	✓
	69 406	JC37230-8	12612	TCL20+	G W	2	5		x	W	W	W	W	W		✓
	69 407	JC37230-9		✓	G W	1	5		x	W	W	W	W	W		✓
	69 408	BBB2														
	69 409	CC2925-50								W	W	W	W	W	25ML A/B & 1E1K /50ml WPE1,121,131,151	
	69 410	MB2								W	W	W	W	W		
	69 411	JC37230-10	12612	TCL20+	G W	1	5		x	W	W	W	W	W		✓
	69 412	JC37230-11		✓	G W	2	5		x	W	W	W	W	W		✓
	69 413	JC37230-12		✓	G W	2	5		x	W	W	W	W	W		✓
	69 414	JC37230-14		✓	G W	1	5		x	W	W	W	W	W		✓
	69 415	JC37230-1		✓	G W	2	5 50		10x	W	W	W	W	W	1x 01D Clean up	✓
	69 416	IB														

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.

All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-10

Rev. Date: 1/19/16

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Appendix B

First Quarter 2017 Effluent Air Laboratory Analytical Reports

2/3/2017

Mr. Peter Hollatz
AECOM Environment
4320 Winfield Road

Warrenville IL 60555

Project Name: UTC SER 9110
Project #: 60532451
Workorder #: 1701378

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 1/26/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott
Project Manager

A Eurofins Lancaster Laboratories Company

WORK ORDER #: 1701378

Work Order Summary

CLIENT: Mr. Peter Hollatz
 AECOM Environment
 4320 Winfield Road
 Warrenville, IL 60555

BILL TO: Accounts Payable-Warrenville
 AECOM Environment
 4320 Winfield Road
 Warrenville, IL 60555

PHONE: 630 829-2736 **P.O. #:** 74247

FAX: 630-657-6305 **PROJECT #:** 60532451 UTC SER 9110

DATE RECEIVED: 01/26/2017

CONTACT: Ausha Scott

DATE COMPLETED: 02/03/2017

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	P1SVE-EFFC1-012417	Modified TO-14A	2.6 "Hg	15.1 psi
02A	P2SVE-EFFC4-012417	Modified TO-14A	2 "Hg	14.9 psi
03A	P2SVE-EFFC4-012417 DUP	Modified TO-14A	1.8 "Hg	15.5 psi
04A	P1SVE-EFFC2-012417	Modified TO-14A	2.2 "Hg	14.7 psi
05A	P2SVE-EFFC5-012417	Modified TO-14A	5.3 "Hg	15 psi
06A	P1SVE-EFFC3-012417	Modified TO-14A	3.5 "Hg	15.1 psi
07A	Field Blank-012417	Modified TO-14A	5.3 "Hg	14.9 psi
08A	Lab Blank	Modified TO-14A	NA	NA
09A	CCV	Modified TO-14A	NA	NA
10A	LCS	Modified TO-14A	NA	NA
10AA	LCSD	Modified TO-14A	NA	NA

CERTIFIED BY:

DATE: 02/03/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,

TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-14A
AECOM Environment
Workorder# 1701378

Seven 1 Liter Summa Canister samples were received on January 26, 2017. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications. Please note that TO-14A was validated for specially treated canisters, and the use of Tedlar bags for sample collection is outside the scope of the method.

Requirement	TO-14A	ATL Modifications
Initial Calibration criteria	RSD<=30%	Follow TO-15 requirements of RSD<=30% with two compounds allowed out to <=40% RSD.
BFB absolute abundance criteria	Within 10% of that from previous day	CCV internal standard area counts are compared to ICAL, corrective action when recovery is less than 60%.
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Sample Drying System	Nafion Dryer	Multibed hydrophobic sorbent
BFB ion abundance criteria	Ion abundance listed in Table 4 of TO-14A	Follow ion abundance criteria listed in Method TO-15

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

C - Estimated calculation due to estimated sampling rate.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC1-012417**Lab ID#: 1701378-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.1	12	4.5	49
cis-1,2-Dichloroethene	1.1	1.6	4.4	6.5
1,1,1-Trichloroethane	1.1	45	6.0	250
Trichloroethene	1.1	6.2	6.0	33
Tetrachloroethene	1.1	49	7.5	330

Client Sample ID: P2SVE-EFFC4-012417**Lab ID#: 1701378-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.1	1.5	4.4	6.1
cis-1,2-Dichloroethene	1.1	1.5	4.3	5.9
1,1,1-Trichloroethane	1.1	19	5.9	100
Trichloroethene	1.1	4.0	5.8	21
Tetrachloroethene	1.1	18	7.3	120

Client Sample ID: P2SVE-EFFC4-012417 DUP**Lab ID#: 1701378-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.1	1.7	4.4	7.0
cis-1,2-Dichloroethene	1.1	1.4	4.3	5.7
1,1,1-Trichloroethane	1.1	22	5.9	120
Trichloroethene	1.1	4.0	5.8	22
Tetrachloroethene	1.1	19	7.4	130

Client Sample ID: P1SVE-EFFC2-012417**Lab ID#: 1701378-04A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.1	2.2	4.3	8.7
1,1-Dichloroethane	1.1	78	4.4	310



Air Toxics

Summary of Detected Compounds MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC2-012417**Lab ID#: 1701378-04A**

cis-1,2-Dichloroethene	1.1	2.6	4.3	10
1,1,1-Trichloroethane	1.1	150	5.9	810
Trichloroethene	1.1	8.7	5.8	47
Tetrachloroethene	1.1	23	7.3	160

Client Sample ID: P2SVE-EFFC5-012417**Lab ID#: 1701378-05A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.2	1.4	5.0	5.6
1,1,1-Trichloroethane	1.2	52	6.7	280

Client Sample ID: P1SVE-EFFC3-012417**Lab ID#: 1701378-06A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.1	1.9	4.6	7.6
1,1,1-Trichloroethane	1.1	42	6.2	230
Trichloroethene	1.1	2.7	6.2	14
Tetrachloroethene	1.1	2.7	7.8	18

Client Sample ID: Field Blank-012417**Lab ID#: 1701378-07A**

No Detections Were Found.



Air Toxics

Client Sample ID: P1SVE-EFFC1-012417

Lab ID#: 1701378-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012814	Date of Collection: 1/24/17 7:50:00 AM		
Dil. Factor:	2.22	Date of Analysis: 1/28/17 03:49 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.4	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.1	12	4.5	49
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	1.6	4.4	6.5
Chloroform	1.1	Not Detected	5.4	Not Detected
1,1,1-Trichloroethane	1.1	45	6.0	250
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	6.2	6.0	33
Toluene	1.1	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	49	7.5	330
Ethyl Benzene	1.1	Not Detected	4.8	Not Detected
m,p-Xylene	1.1	Not Detected	4.8	Not Detected
o-Xylene	1.1	Not Detected	4.8	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: P2SVE-EFFC4-012417

Lab ID#: 1701378-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012808	Date of Collection: 1/24/17 8:00:00 AM		
Dil. Factor:	2.16	Date of Analysis: 1/28/17 12:58 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.1	1.5	4.4	6.1
2-Butanone (Methyl Ethyl Ketone)	4.3	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	1.5	4.3	5.9
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	19	5.9	100
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
Benzene	1.1	Not Detected	3.4	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	4.0	5.8	21
Toluene	1.1	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	18	7.3	120
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: P2SVE-EFFC4-012417 DUP

Lab ID#: 1701378-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012809	Date of Collection: 1/24/17 8:00:00 AM		
Dil. Factor:	2.18	Date of Analysis: 1/28/17 01:26 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.4	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.1	1.7	4.4	7.0
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	1.4	4.3	5.7
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	22	5.9	120
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	4.0	5.8	22
Toluene	1.1	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	19	7.4	130
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: P1SVE-EFFC2-012417

Lab ID#: 1701378-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012810	Date of Collection: 1/24/17 8:10:00 AM		
Dil. Factor:	2.16	Date of Analysis: 1/28/17 01:55 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
1,1-Dichloroethene	1.1	2.2	4.3	8.7
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.1	78	4.4	310
2-Butanone (Methyl Ethyl Ketone)	4.3	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	2.6	4.3	10
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	150	5.9	810
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
Benzene	1.1	Not Detected	3.4	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	8.7	5.8	47
Toluene	1.1	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	23	7.3	160
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: P2SVE-EFFC5-012417

Lab ID#: 1701378-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012811	Date of Collection: 1/24/17 8:20:00 AM		
Dil. Factor:	2.45	Date of Analysis: 1/28/17 02:23 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	Not Detected	29	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1-Dichloroethane	1.2	1.4	5.0	5.6
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	52	6.7	280
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.7	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	Not Detected	5.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: P1SVE-EFFC3-012417

Lab ID#: 1701378-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012812	Date of Collection: 1/24/17 8:40:00 AM		
Dil. Factor:	2.29	Date of Analysis: 1/28/17 02:52 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	11	Not Detected	27	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.1	1.9	4.6	7.6
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	42	6.2	230
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Trichloroethene	1.1	2.7	6.2	14
Toluene	1.1	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	2.7	7.8	18
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	Not Detected	5.0	Not Detected
o-Xylene	1.1	Not Detected	5.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: Field Blank-012417

Lab ID#: 1701378-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012813	Date of Collection: 1/24/17 8:45:00 AM		
Dil. Factor:	2.44	Date of Analysis: 1/28/17 03:20 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Acetone	12	Not Detected	29	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.6	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.3	Not Detected
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	Not Detected	5.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1701378-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012806	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 1/28/17 11:10 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1701378-09A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012802	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/28/17 08:10 AM

Compound	%Recovery
Vinyl Chloride	117
Chloroethane	113
1,1-Dichloroethene	106
Acetone	112
Methylene Chloride	117
trans-1,2-Dichloroethene	107
1,1-Dichloroethane	116
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	110
Chloroform	110
1,1,1-Trichloroethane	102
Carbon Tetrachloride	104
Benzene	94
1,2-Dichloroethane	109
Trichloroethene	105
Toluene	106
1,1,2-Trichloroethane	105
Tetrachloroethene	101
Ethyl Benzene	107
m,p-Xylene	105
o-Xylene	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1701378-10A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012803	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/28/17 08:36 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	116	70-130
Chloroethane	112	70-130
1,1-Dichloroethene	102	70-130
Acetone	110	70-130
Methylene Chloride	112	70-130
trans-1,2-Dichloroethene	114	70-130
1,1-Dichloroethane	111	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
cis-1,2-Dichloroethene	96	70-130
Chloroform	106	70-130
1,1,1-Trichloroethane	100	70-130
Carbon Tetrachloride	100	70-130
Benzene	92	70-130
1,2-Dichloroethane	104	70-130
Trichloroethene	104	70-130
Toluene	102	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	99	70-130
Ethyl Benzene	108	70-130
m,p-Xylene	104	70-130
o-Xylene	108	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1701378-10AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	17012804	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/28/17 09:03 AM
Compound	%Recovery	Method	Limits
Vinyl Chloride	117	70-130	
Chloroethane	112	70-130	
1,1-Dichloroethene	103	70-130	
Acetone	109	70-130	
Methylene Chloride	112	70-130	
trans-1,2-Dichloroethene	113	70-130	
1,1-Dichloroethane	111	70-130	
2-Butanone (Methyl Ethyl Ketone)	109	70-130	
cis-1,2-Dichloroethene	99	70-130	
Chloroform	107	70-130	
1,1,1-Trichloroethane	99	70-130	
Carbon Tetrachloride	100	70-130	
Benzene	92	70-130	
1,2-Dichloroethane	104	70-130	
Trichloroethene	105	70-130	
Toluene	103	70-130	
1,1,2-Trichloroethane	105	70-130	
Tetrachloroethene	101	70-130	
Ethyl Benzene	107	70-130	
m,p-Xylene	104	70-130	
o-Xylene	107	70-130	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method	Limits
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	102	70-130	

3/30/2017

Mr. Peter Hollatz
AECOM Environment
4320 Winfield Road

Warrenville IL 60555

Project Name: UTC SER 9110

Project #: 60532451
Workorder #: 1703465

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 3/24/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott
Project Manager

A Eurofins Lancaster Laboratories Company

WORK ORDER #: 1703465

Work Order Summary

CLIENT: Mr. Peter Hollatz
 AECOM Environment
 4320 Winfield Road
 Warrenville, IL 60555

BILL TO: Accounts Payable-Warrenville
 AECOM Environment
 4320 Winfield Road
 Warrenville, IL 60555

PHONE: 630 829-2736 **P.O. #:** 74247

FAX: 630-657-6305 **PROJECT #:** 60532451 UTC SER 9110

DATE RECEIVED: 03/24/2017 **CONTACT:** Ausha Scott

DATE COMPLETED: 03/30/2017

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	P1SVE-EFFC1-032317	Modified TO-14A	3.9 "Hg	14.7 psi
02A	P1SVE-EFFC2-032317	Modified TO-14A	2.8 "Hg	14.4 psi
03A	P2SVE-EFFC4-032317	Modified TO-14A	3.9 "Hg	15 psi
04A	P2SVE-EFFC5-032317	Modified TO-14A	4.5 "Hg	14.9 psi
05A	P1SVE-EFFC3-032317	Modified TO-14A	6.9 "Hg	14.8 psi
06A	Lab Blank	Modified TO-14A	NA	NA
07A	CCV	Modified TO-14A	NA	NA
08A	LCS	Modified TO-14A	NA	NA
08AA	LCSD	Modified TO-14A	NA	NA

CERTIFIED BY:

DATE: 03/30/17

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-14A
AECOM Environment
Workorder# 1703465**

Five 1 Liter Summa Canister samples were received on March 24, 2017. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications. Please note that TO-14A was validated for specially treated canisters, and the use of Tedlar bags for sample collection is outside the scope of the method.

Requirement	TO-14A	ATL Modifications
Initial Calibration criteria	RSD</=30%	Follow TO-15 requirements of RSD</=30% with two compounds allowed out to </=40% RSD.
BFB absolute abundance criteria	Within 10% of that from previous day	CCV internal standard area counts are compared to ICAL, corrective action when recovery is less than 60%.
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Sample Drying System	Nafion Dryer	Multibed hydrophobic sorbent
BFB ion abundance criteria	Ion abundance listed in Table 4 of TO-14A	Follow ion abundance criteria listed in Method TO-15

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedences and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Dilution was performed on sample P2SVE-EFFC5-032317 due to the presence of high level target species.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

C - Estimated calculation due to estimated sampling rate.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC1-032317**Lab ID#: 1703465-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	2.1	4.6	8.2
1,1-Dichloroethane	1.2	14	4.6	57
cis-1,2-Dichloroethene	1.2	2.8	4.6	11
1,1,1-Trichloroethane	1.2	36	6.3	200
Trichloroethene	1.2	6.4	6.2	34
Tetrachloroethene	1.2	43	7.8	290

Client Sample ID: P1SVE-EFFC2-032317**Lab ID#: 1703465-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.1	11	4.4	43
cis-1,2-Dichloroethene	1.1	2.1	4.3	8.4
1,1,1-Trichloroethane	1.1	27	5.9	150
Trichloroethene	1.1	5.6	5.8	30
Tetrachloroethene	1.1	5.2	7.4	35

Client Sample ID: P2SVE-EFFC4-032317**Lab ID#: 1703465-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	1.2	4.1	4.7	16
cis-1,2-Dichloroethene	1.2	3.4	4.6	14
1,1,1-Trichloroethane	1.2	55	6.3	300
Trichloroethene	1.2	4.5	6.2	24
Tetrachloroethene	1.2	20	7.9	140

Client Sample ID: P2SVE-EFFC5-032317**Lab ID#: 1703465-04A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.4	3.7	9.4	15

Summary of Detected Compounds

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P2SVE-EFFC5-032317

Lab ID#: 1703465-04A

1,1-Dichloroethane	2.4	8.6	9.6	35
cis-1,2-Dichloroethene	2.4	9.0	9.4	36
1,1,1-Trichloroethane	2.4	440	13	2400
Trichloroethene	2.4	4.6	13	25
Tetrachloroethene	2.4	9.0	16	61

Client Sample ID: P1SVE-EFFC3-032317

Lab ID#: 1703465-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.3	1.8	5.2	7.1
1,1-Dichloroethane	1.3	4.1	5.3	17
cis-1,2-Dichloroethene	1.3	9.2	5.2	36
1,1,1-Trichloroethane	1.3	130	7.1	710
Trichloroethene	1.3	6.1	7.0	33
Tetrachloroethene	1.3	2.8	8.8	19



Air Toxics

Client Sample ID: P1SVE-EFFC1-032317

Lab ID#: 1703465-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032917	Date of Collection: 3/23/17 8:50:00 AM		
Dil. Factor:	2.30	Date of Analysis: 3/29/17 10:09 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	2.9	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	2.1	4.6	8.2
Acetone	12	Not Detected	27	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	14	4.6	57
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	2.8	4.6	11
Chloroform	1.2	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.2	36	6.3	200
Carbon Tetrachloride	1.2	Not Detected	7.2	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	6.4	6.2	34
Toluene	1.2	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	43	7.8	290
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: P1SVE-EFFC2-032317

Lab ID#: 1703465-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032918	Date of Collection: 3/23/17 9:50:00 AM		
Dil. Factor:	2.18	Date of Analysis: 3/29/17 10:35 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.4	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	38	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.1	11	4.4	43
2-Butanone (Methyl Ethyl Ketone)	4.4	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	2.1	4.3	8.4
Chloroform	1.1	Not Detected	5.3	Not Detected
1,1,1-Trichloroethane	1.1	27	5.9	150
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
Benzene	1.1	Not Detected	3.5	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	5.6	5.8	30
Toluene	1.1	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	5.2	7.4	35
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: P2SVE-EFFC4-032317

Lab ID#: 1703465-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032919	Date of Collection: 3/23/17 10:00:00 AM		
Dil. Factor:	2.32	Date of Analysis: 3/29/17 11:02 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	Not Detected	28	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	4.1	4.7	16
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	3.4	4.6	14
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	55	6.3	300
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	4.5	6.2	24
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	20	7.9	140
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: P2SVE-EFFC5-032317

Lab ID#: 1703465-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032920	Date of Collection: 3/23/17 10:15:00 AM		
Dil. Factor:	4.74	Date of Analysis: 3/29/17 11:26 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.4	Not Detected	6.0	Not Detected
Chloroethane	9.5	Not Detected	25	Not Detected
1,1-Dichloroethene	2.4	3.7	9.4	15
Acetone	24	Not Detected	56	Not Detected
Methylene Chloride	24	Not Detected	82	Not Detected
trans-1,2-Dichloroethene	2.4	Not Detected	9.4	Not Detected
1,1-Dichloroethane	2.4	8.6	9.6	35
2-Butanone (Methyl Ethyl Ketone)	9.5	Not Detected	28	Not Detected
cis-1,2-Dichloroethene	2.4	9.0	9.4	36
Chloroform	2.4	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.4	440	13	2400
Carbon Tetrachloride	2.4	Not Detected	15	Not Detected
Benzene	2.4	Not Detected	7.6	Not Detected
1,2-Dichloroethane	2.4	Not Detected	9.6	Not Detected
Trichloroethene	2.4	4.6	13	25
Toluene	2.4	Not Detected	8.9	Not Detected
1,1,2-Trichloroethane	2.4	Not Detected	13	Not Detected
Tetrachloroethene	2.4	9.0	16	61
Ethyl Benzene	2.4	Not Detected	10	Not Detected
m,p-Xylene	2.4	Not Detected	10	Not Detected
o-Xylene	2.4	Not Detected	10	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: P1SVE-EFFC3-032317

Lab ID#: 1703465-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032921	Date of Collection: 3/23/17 10:40:00 AM		
Dil. Factor:	2.61	Date of Analysis: 3/29/17 11:52 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Chloroethane	5.2	Not Detected	14	Not Detected
1,1-Dichloroethene	1.3	1.8	5.2	7.1
Acetone	13	Not Detected	31	Not Detected
Methylene Chloride	13	Not Detected	45	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.2	Not Detected
1,1-Dichloroethane	1.3	4.1	5.3	17
2-Butanone (Methyl Ethyl Ketone)	5.2	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.3	9.2	5.2	36
Chloroform	1.3	Not Detected	6.4	Not Detected
1,1,1-Trichloroethane	1.3	130	7.1	710
Carbon Tetrachloride	1.3	Not Detected	8.2	Not Detected
Benzene	1.3	Not Detected	4.2	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.3	Not Detected
Trichloroethene	1.3	6.1	7.0	33
Toluene	1.3	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.1	Not Detected
Tetrachloroethene	1.3	2.8	8.8	19
Ethyl Benzene	1.3	Not Detected	5.7	Not Detected
m,p-Xylene	1.3	Not Detected	5.7	Not Detected
o-Xylene	1.3	Not Detected	5.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank
Lab ID#: 1703465-06A
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032906	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 3/29/17 11:20 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703465-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032902	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/29/17 09:41 AM

Compound	%Recovery
Vinyl Chloride	126
Chloroethane	119
1,1-Dichloroethene	108
Acetone	124
Methylene Chloride	131 Q
trans-1,2-Dichloroethene	108
1,1-Dichloroethane	126
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	110
Chloroform	116
1,1,1-Trichloroethane	108
Carbon Tetrachloride	110
Benzene	111
1,2-Dichloroethane	124
Trichloroethene	104
Toluene	109
1,1,2-Trichloroethane	100
Tetrachloroethene	101
Ethyl Benzene	99
m,p-Xylene	101
o-Xylene	101

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1703465-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/29/17 10:05 AM
Compound	%Recovery	Method Limits
Vinyl Chloride	126	70-130
Chloroethane	113	70-130
1,1-Dichloroethene	104	70-130
Acetone	124	70-130
Methylene Chloride	126	70-130
trans-1,2-Dichloroethene	114	70-130
1,1-Dichloroethane	121	70-130
2-Butanone (Methyl Ethyl Ketone)	112	70-130
cis-1,2-Dichloroethene	97	70-130
Chloroform	111	70-130
1,1,1-Trichloroethane	105	70-130
Carbon Tetrachloride	106	70-130
Benzene	112	70-130
1,2-Dichloroethane	124	70-130
Trichloroethene	101	70-130
Toluene	110	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	98	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	100	70-130
o-Xylene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703465-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	3032904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/29/17 10:29 AM
Compound	%Recovery	Method Limits	
Vinyl Chloride	130	70-130	
Chloroethane	120	70-130	
1,1-Dichloroethene	108	70-130	
Acetone	124	70-130	
Methylene Chloride	131 Q	70-130	
trans-1,2-Dichloroethene	118	70-130	
1,1-Dichloroethane	124	70-130	
2-Butanone (Methyl Ethyl Ketone)	111	70-130	
cis-1,2-Dichloroethene	102	70-130	
Chloroform	114	70-130	
1,1,1-Trichloroethane	107	70-130	
Carbon Tetrachloride	110	70-130	
Benzene	113	70-130	
1,2-Dichloroethane	127	70-130	
Trichloroethene	104	70-130	
Toluene	111	70-130	
1,1,2-Trichloroethane	102	70-130	
Tetrachloroethene	103	70-130	
Ethyl Benzene	104	70-130	
m,p-Xylene	103	70-130	
o-Xylene	102	70-130	

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	105	70-130

Appendix C

First Quarter 2017 Phase1/Phase 2 AS/SVE System Operations Data Sheets

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	3-18-17	3-19-17	3-20-17	3-21-17	3-22-17	3-23-17					
TIME	8:43 AM	9:00 AM	6:34 AM	8:16 AM	10:43 AM	0850					
OBSERVER'S INITIALS	RK	KA	PR	RK	RK	RH-					
ALARMS											
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA					
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA					
HOURS METERS											
B-701 SVE (hrs)	43742	43767	43788	43814	43840	43862					
C-2201 SPRG (hrs)	38450	38475	38496	38522	38549	38571					
F-2501 H-XCH (hrs)	38450	38475	38496	38522	38549	38571					
ANALOGS											
MV-701 SVE POS (%)	28	28	28	29	28	28					
PT-701 SVE (-wc)	-81.6	-81.6	-81.6	-81.0	-81.6	-81.6					
PT-2501 SPRG (psi)	13.2	13.3	12.0	13.1	13.2	11.9					
SET POINTS											
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0					
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0					
SET POINTS 2											
SVON-101 SVE (min)	60	60	60	60	60	60					
SVON-102 SVE (min)	60	60	60	60	60	60					
SVON-103 SVE (min)	180	180	180	180	180	180					
SET POINTS 3											
SVON-2801 SPRG (min)	60	60	60	60	60	60					
SVON-2802 SPRG (min)	60	60	60	60	60	60					
SVON-2803 SPRG (min)	180	180	180	180	180	180					
SPRG DELAY (min)	0	0	0	0	0	0					
SET POINTS 4											
MV-701 SVE POS (%)	30	30	30	30	30	30					

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

MV-701 SVE POS (%) 30 30 30 30 30 30 30 30 30 30 30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET
Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

HOURS METERS

ANALOGS

SET POINTS

SYNTHETIC POLY(URIDYLIC ACID)

SVON-2801 SE

MV-701 SVF PC

MV-701 SVE POS (%) 30 30 30 30 30 30 30 30 30 30 30

MONTHLY DOCUMENTATION SHEET
SVE MANIFOLD

DATE	1-24-17	2-22-17	3-23-17							
TIME	0900	0905	0850							
INITIALS	N.P.	H.H.	A.H.							

MAGNEHELIC GAUGE*

CELL 1	SVE-1 (in H ₂ O)	1.0 0.4 1.0	1.0	1.1						
	SVE-2 (in H ₂ O)	0.4 1.4 1.2	1.4	1.5						
CELL 2	SVE-3 (in H ₂ O)	0.4 1.3 1.3	1.6	1.7						
	SVE-4 (in H ₂ O)	0.4 0.4	0.8	1.1						
CELL 3	SVE-5 (in H ₂ O)	0.6	1.0	1.0						
	SVE-6 (in H ₂ O)	0.0	0.0	0.0						

VACUUM GAUGE

CELL 1	SVE-1 (-wc)	36.0	29.0	30.0						
	SVE-2 (-wc)	26.0	27.0	28.0						
CELL 2	SVE-3 (-wc)	26.0	29.0	20.0						
	SVE-4 (-wc)	26.0	17.0	20.0						
CELL 3	SVE-5 (-wc)	36.0	34.0	34.0						
	SVE-6 (-wc)	36.0	37.0	38.0						

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
AIR SPARGE MANIFOLD

DATE	1-24-17	2-22-17	3-23-17						
TIME	0906	0905	0850						
INITIALS	N.P.	A.H.	A.H.						

ROTOMETER

CELL 1	AS-1 (scfm)	17.6	19.6	20.0					
	AS-2 (scfm)	20.6	20.0	20.0					
CELL 2	AS-3 (scfm)	20.0	20.0	20.0					
	AS-4 (scfm)	18.5	19.0	19.0					
CELL 3	AS-5 (scfm)	18.0	19.0	20.0					
	AS-6 (scfm)	16.5	16.0	16.0					
	AS-7 (scfm)	16.5	17.0	16.0					
	AS-8 (scfm)	17.5	17.5	17.0					
	AS-9 (scfm)	17.0	17.0	18.0					
	AS-10 (scfm)	24.5	24.0	24.5					
	AS-11 (scfm)	16.5	16.0	16.0					
	AS-12 (scfm)	16.0	19.0	18.5					
	AS-13 (scfm)	18.0	17.0	17.0					
	AS-14 (scfm)	19.5	21.0	21.0					
	AS-15 (scfm)	21.0	22.0	22.0					

PRESSURE GAUGE

CELL 1	AS-1 (psi)	12.0	11.0	11.0					
	AS-2 (psi)	11.5	11.0	11.0					
CELL 2	AS-3 (psi)	11.0	10.0	10.0					
	AS-4 (psi)	12.5	11.5	12.0					
CELL 3	AS-5 (psi)	13.5	13.5	13.0					
	AS-6 (psi)	13.0	12.0	12.5					
	AS-7 (psi)	12.0	12.5	13.0					
	AS-8 (psi)	14.0	11.0	11.0					
	AS-9 (psi)	13.0	12.5	12.0					
	AS-10 (psi)	11.0	12.0	12.5					
	AS-11 (psi)	12.0	11.0	10.5					
	AS-12 (psi)	14.0	13.5	13.5					
	AS-13 (psi)	13.5	11.0	12.5					
	AS-14 (psi)	13.5	13.5	13.5					
	AS-15 (psi)	13.5	13.5	13.5					

MONTHLY DOCUMENTATION SHEET
WELL HEAD GAUGES

DATE	5/19/16	6-21-16	7-22-16	9-20-16	10-28-16	11-28-16	1-24-16	2-22-17	3-23-17	
TIME	1000	0900	0850	1015	1015	915	0900	0905	0850	
INITIALS	NP	A.H	A.H	A.H	A.H	A.H	NP	A.H	A.H	

CELL 1	AS-1 (psi)	9.53	9.44	9.33	9.28	9.32	9.16	9.68	9.19	9.06
	AS-2 (psi)	9.41	9.34	9.23	9.18	9.22	9.11	9.42	9.10	8.46
	AS-3 (psi)	9.63	9.52	9.40	9.38	9.42	9.24	9.53	9.31	9.12
	AS-4 (psi)	9.79	9.72	9.71	9.59	9.58	9.56	9.46	9.43	9.42
	AS-5 (psi)	9.69	9.59	9.47	9.46	9.49	9.36	9.60	9.36	9.24
CELL 2	AS-6 (psi)	9.62	9.80	9.50	9.66	9.37	9.44	9.43	9.32	
	AS-7 (psi)	9.94	10.05	9.83	9.94	9.67	9.74	9.66	9.66	
	AS-8 (psi)	10.14	10.23	10.02	10.08	9.83	9.50	9.76	9.34	
	AS-9 (psi)	11.03	11.23	10.54	11.06	10.79	10.49	11.10	10.84	10.68
	AS-10 (psi)	10.15	10.20	9.98	10.04	9.81	9.40	10.32	9.83	9.75
CELL 3	AS-11 (psi)	9.43	9.81	9.60	9.59	9.47	9.44	9.35	9.23	9.26
	AS-12 (psi)	10.41	11.22	10.40	10.41	10.57	10.40	9.97	9.97	10.15
	AS-13 (psi)	10.35	11.11	10.35	10.40	10.57	10.50	9.95	10.02	10.13
	AS-14 (psi)	10.32	10.93	10.29	10.34	10.34	10.20	10.01	9.95	10.01
	AS-15 (psi)	10.37	10.92	10.32	10.35	10.39	10.30	10.12	10.04	10.10

CELL 1	SVE-1 (in H ₂ O)	5.7	5.6	5.27	5.7	6.1	5.9	6.4	6.0	5.7
	SVE-2 (in H ₂ O)	7.8	7.7	7.6	7.8	8.1	8.0	8.2	8.0	7.74716
CELL 2	SVE-3 (in H ₂ O)	7.2	7.4	7.2	7.6	7.6	7.7	Snow	7.7	7.1
	SVE-4 (in H ₂ O)	6.8	7.0	6.9	7.3	7.3	7.1	7.3	7.0	6.9
CELL 3	SVE-5 (in H ₂ O)	9.1	9.7	9.6	9.4	9.8	10.20	9.5	9.1	9.2
	SVE-6 (in H ₂ O)	7.2	7.7	7.7	7.1	8.1	3.8	7.8	7.4	7.4

WEEKLY DOCUMENTATION SHEET
SYSTEM COMPONENTS

DATE	1-24-17	1-30-17	2-1-17	2-13-17	2-20-17	2-27-17	3-1-17	3-13-17	3-21-17
TIME	0900	9:55AM	1320	10:47 AM	0945	10:48 AM	10:21 AM	10:33 AM	8:11 AM
OBSERVER'S INITIALS	N.P.	RK	AT	RK	AT	RK	RK	RK	RK

SYSTEM LEAKS, EXCESSIVE OR UNFAMILIAR NOISE, MOISTURE, ETC.

Comments and Notes	NA								
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SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	42597	42741	48837	48954	43121	43290	43457	43624	43814
Inlet Vacuum (-wc)	84	84	92	91	90	92	82	90	84
Pre-Filter Vacuum (-wc)	109.5	-77.1	75.4	-76.3	75.1	-75.9	-67.2	74.3	67.8
Post-Filter Vacuum (-wc)	72	82	80	82	80	80	72	79	74
Outlet Pressure (wc)	8.0	8	8	8	7.0	6	7	7	7
Outlet Temperature (°F)	130	140	124	144	150	150	144	142	134
Outlet Magnehelic* (in H ₂ O)	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Water Level Sight Glass (in)	Ø	4	8	Ø	Ø	Ø	Ø	Ø	Ø

AIR SPARGE (SPRG)

Hours Operation (hrs)	37293	37439	37536	37654	37823	37993	38162	38331	38522
Oil Sight Glass (half pt.)	OK								

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	37293	37439	37536	37654	37823	37993	38162	38331	38522
Inlet Temperature (°F)	200	205	160	210	220	215	220	205	200
Inlet Pressure (psi)	17.0	17	20	17	17	18	16	16	18
Outlet Temperature (°F)	100	100	86	110	114	113	195	105	96
Outlet Pressure (psi)	14.0	14.5	14.0	14	14	14.5	14	13	15.5
Outlet Magnehelic* (in H ₂ O)	4.0+	4+	4+	4+	4+	4+	4+	4+	4+

ELECTRICAL USAGE (see display panel below main breaker and next to control panel)

Kilowatts (kwh)	00211056	211817	212340	212981	213905	214198	215668	216538	217516
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DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-20-17	3-21-17	3-22-17	3-23-17					
TIME	6:39 AM	8:36 AM	10:47 AM	09:20					
OBSERVER'S INITIALS	RK	RK	RK	A.H.					

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	76°F "DARK" Cloudy	72°F Sunny	71°F Sunny	70°F Overcast					
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ALARMS

Alarm Code	NA	NA	NA	NA					
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P&ID

PDT-701 SVE (-wc)	0.0	0.05	0.02	0.01					
PT-701 SVE (-wc)	-34	-31	-27	-30					
PT-702 SVE (-wc)	70.0	71.9	73.1	72.4					
PT-2201 SPRG (psi)	17.9	18.4	18.8	18.3					
P-401 PUMP (cycles)	76	76	76	76					

P&ID2

PDT-801 SVE (-wc)	0.11	0.10	0.11	0.14					
PT-801 SVE (-wc)	-95	-90	-83	-90					
PT-802 SVE (-wc)	58.7	59.5	61.7	60.0					
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0					
P-501 PUMP (cycles)	647	647	647	647					

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-20-17	3-21-17	3-22-17	3-23-17					
TIME	6:39AM	8:36AM	10:47AM	0920					
OBSERVER'S INITIALS	RK	RK	RK	R.H.					

HOURS METERS

B-701 SVE (hrs)	13423	13449	13475	13498					
C-2201 SPRG (hrs)	11874	11900	11926	11949					
C-2202 SPRG (hrs)	13050	13076	13102	13125					
B-801 SVE (hrs)	13355	13381	13407	13430					
C-2301 SPRG (hrs)	13304	13330	13356	13378					
C-2302 SPRG (hrs)	13304	13330	13356	13378					

SET POINTS

PAL-701 SVE (wc)	-27	-27	-27	-27					
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0					
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0					
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0					
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0					
PAL-801 SVE (wc)	-25	-25	-25	-25					
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0					
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0					
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0					
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0					
SV-2801 SPRG (min)	40	40	40	40					
SV-2802 SPRG (min)	20	20	20	20					
SV-2901 SPRG (min)	20	20	20	20					
SV-2902 SPRG (min)	20	20	20	20					

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-11-17	3-12-17	3-13-17	3-14-17	3-15-17	3-16-17	3-17-17	3-18-17	3-19-17
TIME	8:30A.m.	11:33 AM	10:25AM	10:14AM	8:27AM	8:03AM	9:01A.m.	8:48AM	9:08AM
OBSERVER'S INITIALS	DE	MG	RK	RK	RK	RK	RK	RK	KA

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	74°F	77°F	76°F	76°F	78°F	76°F	80°F	72°F	72°F
	SUNNY	SUNNY	Snow	Snow/Sun	Sunny	Sunny	RAIN.	DRIZZLE	SUNNY

ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.01	0.02	0.05	0.04	0.0	0.0	0.0	0.02	0.03
PT-701 SVE (-wc)	-34	-29	-32	-41	-36	-35	-35	-33	-30
PT-702 SVE (-wc)	74.6	74.1	74.0	70.9	74.0	73.5	71.8	73.2	73.6
PT-2201 SPRG (psi)	19.16	19.6	14.2	19.1	19.1	15.3	17.9	18.9	18.5
P-401 PUMP (cycles)	76	76	76	76	76	76	76	76	76

P&ID2

PDT-801 SVE (-wc)	0.10	0.15	0.11	0.07	0.10	0.08	0.15	0.11	0.11
PT-801 SVE (-wc)	-87	-85	-88	-93	-93	-107	-97	-92	-89
PT-802 SVE (-wc)	62.3	62.6	61.1	61.9	62.6	59.0	60.1	60.6	61.0
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	646	646	646	646	647	647	647	647	647

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-2-17	3-3-17	3-4-17	3-5-17	3-6-17	3-7-17	3-8-17	3-9-17	3-10-17
TIME	8:17 AM	8:40 AM	1:04 PM	8:15 AM	10:36 AM	10:23 AM	12:41 PM	10:41 AM	9:54 AM
OBSERVER'S INITIALS	RK	RK	RK	DE	-RK	-RK	-RK	RK	RK

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	70°F	70°F	74°F	74°F	76°F	72°F	72°F	74°F	76°F
	Snow	Sunny	Snowy/wet	CLOUDY	CLOUDY	Sunny	Sunny	Cloudy	SUNNY

ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.01	0.04	0.02	0.04	0.01	0.02	0.01	0.02	0.01
PT-701 SVE (-wc)	-32	-33	-31	-33	-36	-37	-34	-32	-29
PT-702 SVE (-wc)	74.8	74.2	72.5	73.0	69.2	72.1	71.0	73.1	75.0
PT-2201 SPRG (psi)	14.4	13.9	18.8	19.0	17.7	13.5	19.4	13.7	14.1
P-401 PUMP (cycles)	76	76	76	76	76	76	76	76	76

P&ID2

PDT-801 SVE (-wc)	0.12	0.13	0.14	0.10	0.10	0.12	0.13	0.11	0.14
PT-801 SVE (-wc)	-91	-81	-85	-93	-99	-95	-93	-91	-84
PT-802 SVE (-wc)	62.1	62.9	61.4	60.9	57.5	59.1	59.2	61.2	61.5
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	645	645	645	645	645	645	645	645	645

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	2-21-17	2-22-17	2-23-17	2-24-17	2-25-17	2-26-17	2-27-17	2-28-17	3-1-17
TIME	12:43 PM	0930	9:04 AM	8:57 AM	8:41 AM	11:06 AM	11:01 AM	8:21 AM	10:05 AM
OBSERVER'S INITIALS	RK	A.H	RK	RK	TK	KA	PL	RK	RK

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	84°F Sunny	78°F Cloudy	84°F Cloudy	78°F RAIN	80°F SNOW SUNNY	72°F SUNNY	74°F SUNNY	74°F RAIN	72°F RAIN
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ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.01	0.0	0.0	0.03	0.01	0.02	0.03	0.02	0.03
PT-701 SVE (-wc)	-34	-37	-39	-40	-42	-37	-34	-38	-41
PT-702 SVE (-wc)	69.6	69.3	69.8	70.1	72.3	72.1	71.6	69.7	71.0
PT-2201 SPRG (psi)	18.5	17.7	13.5	18.0	19.4	18.9	18.9	18.2	13.7
P-401 PUMP (cycles)	76	76	76	76	76	76	76	76	76

P&ID2

PDT-801 SVE (-wc)	0.12	0.12	0.11	0.10	0.08	0.14	0.13	0.14	0.12
PT-801 SVE (-wc)	-90	-99	-95	-106	-104	-92	-89	-99	-104
PT-802 SVE (-wc)	58.5	57.8	59.6	58.6	62.0	61.4	59.6	58.7	58.6
PT-2301 SPRG (psi)	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	644	644	644	644	644	644	644	644	644

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	2-12-17	2-13-17	2-14-17	2-15-17	2-16-17	2-17-17	2-18-17	2-19-17	2-20-17
TIME	10:34 AM	11:00 AM	09:50 AM	12:05	01:14 PM	03:00 PM	01:51 PM	11:20 AM	10:00
OBSERVER'S INITIALS	KA	TAL	MG	AH	MG	MG	MG	KA	Arf

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	72°F SUNNY	70°F Sunny	70°F SUNNY	68°F Sunny	70°F OVERCAST	86°F SUNNY	88°F SUNNY	82°F SUNNY	76°F Cloudy
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ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.01	0.01	0.02	0.04	0.00	0.00	0.00	0.00	0.01
PT-701 SVE (-wc)	-34	-30	-36	-35	-36	-39	-38	-33	-33
PT-702 SVE (-wc)	71.7	72.2	72.3	73.2	70.4	68.1	69.2	69.8	69.5
PT-2201 SPRG (psi)	22.5	19.9	14.0	15.9	14.6	18.6	13.5	19.0	18.1
P-401 PUMP (cycles)	76	76	76	76	76	76	76	76	76

P&ID2

PDT-801 SVE (-wc)	0.11	0.13	0.10	0.11	0.13	0.09	0.13	0.12	0.12
PT-801 SVE (-wc)	-86	-82	-91	-88	-92	-96	-93	-87	-90
PT-802 SVE (-wc)	62.2	61.8	60.5	62.8	60.2	57.2	58.0	59.1	58.5
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	638	639	639	641	644	644	644	644	644

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	1-30-17	1-31-17	2-1-17	2-2-17	2-3-17	2-8-17	2-9-17	2-10-17	2-11-17
TIME	10:55	1:05 PM	8:22 AM	12:00	09:25	13:30	10:00 AM	8:27 AM	11:41 AM
OBSERVER'S INITIALS	A.H.	RK	ER	A.H.	A.H.	A.H.	MG	RK	MG

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	68°F Cloudy	70°F Cloudy	70°F Part Cloudy	70°F Clear	66°F Clear	52°F Overcast	70°F Sunny	69°F Sunny	74°F 72°F OVERCAST
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ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.04	0.04	0.04	0.6	0.05	0.11	0.06	0.04	0.00
PT-701 SVE (-wc)	-40	-38	-35	-36	-33	-33	-35	-39	-35
PT-702 SVE (-wc)	71.7	71.3	73.3	74.0	75.3	75.5	74.9	71.9	70.2
PT-2201 SPRG (psi)	20.5	19.2	19.5	20.8	21.0	15.8	22.3	21.3	19.4
P-401 PUMP (cycles)	75	75	75	75	75	76	76	76	76

P&ID2

PDT-801 SVE (-wc)	0.13	0.14	0.09	0.02	0.09	0.06	0.09	0.09	0.08
PT-801 SVE (-wc)	-96	-94	-90	-93	-84	-85	-86	-99	-89
PT-802 SVE (-wc)	62.2	61.1	62.4	63.2	64.1	64.6	64.3	61.1	60.2
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	635	635	635	630	630	638	638	638	638

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	11-26-16	11-27-16	11-28-16	1-24-17	1-25-17	1-26-17	1-27-17	1-28-17	1-29-17
TIME	8:42 AM	10:26 AM	9:01 AM	0945	1315	9:55 AM	7:19 AM	9:42 AM	8:25 AM
OBSERVER'S INITIALS	KA	KA	RK	N.P	A.H.	RK	RK	KA	DE

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	56°F SUNNY	56°F Cloudy	62°F Cloudy	60°F Cloudy	65°F Cloudy	70°F Cloudy	69°F Cloudy	70°F Cloudy	70°F Cloudy
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ALARMS

Alarm Code	NA								
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P&ID

PDT-701 SVE (-wc)	0.04	0.01	0.052	0.11	0.08	0.04	0.03	0.01	0.03
PT-701 SVE (-wc)	-32	-36	-42	-37	-44	-37	-37	-43	-41
PT-702 SVE (-wc)	73.0	71.1	69.7	73.1	70.8	73.3	74.1	72.7	72.7
PT-2201 SPRG (psi)	18.8	13.6	18.3	20.2	19.1	21.0	20.5	19.9	14.4
P-401 PUMP (cycles)	73	73	73	75	75	75	75	75	75

P&ID2

PDT-801 SVE (-wc)	0.12	0.13	0.12	0.12	0.13	0.11	0.07	0.09	0.08
PT-801 SVE (-wc)	-84	-92	-102	-89	-100	-93	-98	-100	-97
PT-802 SVE (-wc)	61.0	60.3	58.7	62.7	60.4	62.7	62.4	62.2	62.4
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	593	594	594	627	627	627	627	627	628

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

SET POINTS

MONTHLY DOCUMENTATION SHEET

BUILDING 1

SVE MANIFOLD

DATE	7-22-16	9-20-16	10-28-16	11-26-16	1-24-17	2-22-17	3-23-17			
TIME	0950	1000AM	0950	0930	0945	0930	0920			
INITIALS	A.H.	A.H.	A.H.	A.H.	N.P.	A.H.	A.H.			

MAGNEHELIC GAUGE*

SVE-15 (in H ₂ O)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
SVE-14 (in H ₂ O)	1.75	1.7	1.7	1.7	1.7	1.7	1.7			
SVE-13 (in H ₂ O)	0.15	0.0	0.15	0.15	0.0	0.1	0.15			
SVE-11 (in H ₂ O)	0.15	0.10	0.10	0.10	0.15	0.15	0.10			
SVE-9 (in H ₂ O)	0.2	0.2	0.02	0.20	0.25	0.20	0.25			

VACUUM GAUGE

SVE-15 (-wc)	25	22	28	30	30	30	36			
SVE-14 (-wc)	25	22	30	30	30	30	30			
SVE-13 (-wc)	25	22	30	30	30	30	35			
SVE-11 (-wc)	12	16	18	18	18	14	18			
SVE-9 (-wc)	22	22	24	23	30	28	30			

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1 UPPER CELL
AIR SPARGE MANIFOLD

DATE	6-21-16	7-22-16	9-20-16	10-28-16	11-28-16	1-24-17	2-22-17	3-23-17	
TIME	0835	0950	1000	0950	0930	0945	0930	0920	
INITIALS	A.H.	A.H.	R.H.	A.H.	A.H.	N.P.	A.H.	A.H.	

ROTOMETER

UPPER CELL	AS-47 (scfm)	0.6	0.0	0.8	0.0	0.0	0.0	0.0	
	AS-38 (scfm)	10	7.0	7.0	6.0	11.0	11.5	11.0	12.0
	AS-37 (scfm)	10	8.0	8.0	9.0	12.0	13.0	11.5	12.0
	AS-23 (scfm)	10.5	8.0	8.5	9.0	13.0	14.5	12.0	12.5
	AS-24 (scfm)	11.0	8.5	9.0	9.0	13.0	14.5	13.0	13.5
	AS-39 (scfm)	10.0	8.0	8.0	8.0	12.0	13.0	12.0	12.5
	AS-48 (scfm)	10.5	8.0	9.0	9.0	12.5	14.0	12.0	13.0
	AS-52 (scfm)	10.0	8.0	8.0	8.5	12.0	13.0	12.0	12.5
	AS-56 (scfm)	10.0	8.0	8.0	8.5	11.5	13.0	11.5	12.0
	AS-54 (scfm)	10.0	8.0	8.0	8.0	12.0	14.0	12.0	12.5
	AS-58 (scfm)	9.0	8.0	8.0	8.0	11.0	12.0	10.5	11.0

PRESSURE GAUGE

UPPER CELL	AS-47 (psi)	6.0	0.0	0.0	0.0	0.0	0.0	0.0	
	AS-38 (psi)	16.5	16.0	14.0	17.0	17.0	12.0	17.0	17.0
	AS-37 (psi)	8.0	8.0	8.0	8.5	8.0	8.0	8.0	8.0
	AS-23 (psi)	11.5	12.0	11.5	12.5	12.5	12.5	12.0	12.0
	AS-24 (psi)	12.5	12.5	12.0	13.0	12.5	13.0	12.0	12.0
	AS-39 (psi)	11.5	11.5	11.0	12.0	11.5	11.5	11.0	11.0
	AS-48 (psi)	11.0	11.0	11.0	11.5	11.0	11.0	10.5	10.5
	AS-52 (psi)	10.5	11.0	11.0	11.0	11.0	11.0	10.5	10.5
	AS-56 (psi)	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.5
	AS-54 (psi)	12.5	13.0	12.5	14.0	17.5	14.0	17.5	12.0
	AS-58 (psi)	12.0	12.0	11.5	12.0	10.0	10.0	12.0	10.0

MONTHLY DOCUMENTATION SHEET
BUILDING 1 LOWER CELL
AIR SPARGE MANIFOLD

DATE	6-21-16	7-22-16	9-20-16	10-28-16	11-28-16	1-24-17	2-22-17	3-23-17		
TIME	0835	0950	1000, AM	0950	0930	0945	0930	0920		
INITIALS	R.H.	R.H.	R.H.	R.H.	A.H.	N.P.	A.H.	R.H.		

ROTOMETER

LOWER CELL	AS-49 (scfm)	8.5	7.0	6.0	7.0	9.5	11.0	9.5	10.0	
	AS-44 (scfm)	10.0	8.0	7.0	6.0	9.5	8.5	9.5	9.5	
	AS-31 (scfm)	9.0	6.5	7.5	8.0	10.0	12.0	10.0	10.5	
	AS-32 (scfm)	9.0	6.5	7.5	8.0	11.0	13.0	11.0	12.0	
	AS-45 (scfm)	9.5	7.0	7.0	8.0	11.0	14.0	11.5	10.5	
	AS-51 (scfm)	10.0	8.0	7.5	8.0	12.0	14.5	11.5	12.5	
	AS-55 (scfm)	12.5	10.0	10.5	11.0	15.0	17.0	14.5	15.0	
	AS-53 (scfm)	10.5	9.0	8.5	9.0	13.0	14.0	12.5	13.0	
	AS-59 (scfm)	9.5	7.5	8.5	8.0	11.0	11.0	11.0	11.0	
	AS-57 (scfm)	8.5	7.0	6.0	6.0	12.0	15.0	12.0	11.0	
	AS-50 (scfm)	13.0	9.5	10.0	10.5	16.0	17.0	15.0	15.5	

PRESSURE GAUGE

LOWER CELL	AS-49 (psi)	10.5	10.5	10.5	10.5	10.5	12.0	10.5	10.0	
	AS-44 (psi)	12.0	11.5	11.0	11.5	12.5	14.0	12.0	9.5 ^{12.0} _{5.5}	
	AS-31 (psi)	11.0	11.0	10.5	10.5	10.5	11.5	10.0	11.0	
	AS-32 (psi)	10.5	10.5	10.5	10.0	11.0	11.5	10.5	13.0	
	AS-45 (psi)	12.0	11.5	11.5	12.0	12.0	13.0	12.0	12.5	
	AS-51 (psi)	11.0	11.0	10.5	10.5	11.0	11.5	10.5	11.5	
	AS-55 (psi)	11.0	11.0	10.5	10.5	11.0	11.5	10.5	11.5	
	AS-53 (psi)	11.5	11.0	11.0	11.0	12.0	12.0	11.0	12.0	
	AS-59 (psi)	11.5	11.0	11.0	11.0	11.5	12.0	11.0	12.0	
	AS-57 (psi)	12.0	11.5	11.5	11.5	12.5	13.0	12.0	13.0	
	AS-50 (psi)	12.0	12.0	11.5	12.0	12.5	13.0	12.0	13.0	

**MONTHLY DOCUMENTATION SHEET
BUILDING 1
PID MEASUREMENTS**

DATE	5/19/16	6-21-16	7-22-16	9-20-16	10-28-16	11-28-16	1-24-17	2-22-17	3-23-17		
TIME	0930	0835	0950	1000 am	0950	0930	0945	0930	0920		
INITIALS	M	A.H.	A.H.	A.H.	A.H.	A.H.	N.P	A.H.	A.H.		

MONTHLY DOCUMENTATION SHEET
BUILDING 2
SVE MANIFOLD

DATE	7-22-16	9-20-16	10-28-16	11-28-16	1-24-17	2-22-17	3-23-17			
TIME	0940	1450	0005	0925	07150920	0920	0910			
INITIALS	R.H.	R.H.	R.H.	R.H.	N.P.	R.H.	R.H.			

MAGNEHELIC GAUGE*

SVE-10 (in H ₂ O)	0.6	0.6	0.0	0.0	0.0	0.0	0.0			
SVE-12 (in H ₂ O)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
SVE-8 (in H ₂ O)	0.2	0.15	0.20	0.30	0.6	0.35	0.4			
SVE-7 (in H ₂ O)	0.1	0.1	0.05	0.10	0.3	0.15	0.10 0.0144			

VACUUM GAUGE

SVE-10 (-wc)	30	0	53	60	35	38	55			
SVE-12 (-wc)	26	0	30	23	35	26	35			
SVE-8 (-wc)	25	20	40	47	45	26 ³⁰ ₄₄	40			
SVE-7 (-wc)	60	55	72	68	75	60	68			

ELECTRICAL USAGE

Kilowatts (kwh)	392208.60	393568.3	451790.30	513831.76	521427.50	569740.80				
							626548.60			

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 2 UPPER CELL
AIR SPARGE MANIFOLD

DATE	10-21-16	7-22-16	9-20-16	10-28-16	11-28-16	1-24-17	2-22-17	3-23-17		
TIME	0840	0940	1450	1005	0925	0745	0920	0910		
INITIALS	A.H.	A.H.	P.A.	A.H.	N.I.	N.P.	A.H.	A.H.		

ROTOMETER

UPPER CELL	AS-20 (scfm)	13.5	13.0	13.0	13.0	11.5	13.0	11.5	11.5	
	AS-26 (scfm)	2.0	2.5	2.5	2.0	6.5	8.0	6.0	6.0	
	AS-16 (scfm)	15.0	15.0	15.0	14.5	13.0	15.5	13.0	12.0	
	AS-18 (scfm)	8.0	8.0	8.0	7.5	7.0	8.0	7.0	6.5	
	AS-22 (scfm)	11.5	11.5	11.5	11.0	10.0	12.0	10.5	10.0	
	AS-28 (scfm)	11.5	11.5	11.5	11.0	10.0	12.0	10.0	9.5	
	AS-30 (scfm)	16.5	16.0	16.0	15.5	14.0	16.0	14.0	13.0	
	AS-36 (scfm)	13.0	13.0	13.0	12.0	11.0	13.0	11.0	10.5	
	AS-42 (scfm)	9.0	9.0	9.0	8.0	8.0	9.0	7.5	7.5	
	AS-40 (scfm)	17.0	16.0	16.0	16.0	14.0	16.5	14.0	14.0	
	AS-34 (scfm)	24.0	24.0	24.0	24.0	20.0	23.5	26.0	19.5	

PRESSURE GAUGE

UPPER CELL	AS-20 (psi)	10.5	11.0	11.0	10.0	11.0	11.0	10.5	10.5	
	AS-26 (psi)	11.0	11.5	11.0	11.0	11.0	11.5	11.0	11.0	
	AS-16 (psi)	10.5	11.0	10.5	10.5	11.0	11.0	10.5	10.5	
	AS-18 (psi)	15.0	15.5	15.0	14.5	15.0	16.0	14.0	14.0	
	AS-22 (psi)	10.5	11.0	10.5	10.5	11.0	11.0	10.0	10.5	
	AS-28 (psi)	11.5	12.0	12.0	11.0	11.5	12.0	11.0	11.0	
	AS-30 (psi)	11.0	11.5	11.5	11.0	11.0	12.0	11.0	11.0	
	AS-36 (psi)	12.5	13.0	12.5	12.0	12.5	13.0	12.5	12.5	
	AS-42 (psi)	11.0	11.5	11.0	11.0	11.5	11.5	11.0	11.0	
	AS-40 (psi)	11.5	12.0	12.0	11.0	11.5	12.0	11.5	11.5	
	AS-34 (psi)	12.0	12.5	12.5	12.0	12.0	13.0	12.0	12.0	

MONTHLY DOCUMENTATION SHEET
BUILDING 2 LOWER CELL
AIR SPARGE MANIFOLD

DATE	10-21-16	7-22-16	9-26-16	10-08-16	10-28-16	1-24-17	2-22-17	2-23-17		
TIME	0840	0940	1450	1005	0925	0750	0920	0910		
INITIALS	A.H.	A.H.	A.H.	A.H.	A.H.	N.D.	A.H.	A.H.		

ROTOMETER

LOWER CELL	AS-27 (scfm)	13.0	13.0	15.0	12.5	11.5	14.5	11.5	11.0	
	AS-25 (scfm)	15.0	14.5	17.0	14.0	13.0	15.5	12.5	12.0	
	AS-17 (scfm)	13.0	13.0	15.6	12.0	11.0	14.0	12.0	11.0	
	AS-19 (scfm)	14.0	14.5	16.5	13.0	11.5	15.5	16.0	11.5	
	AS-21 (scfm)	18.5	20.0	22.0	18.0	16.0	20.5	8.0	15.5	
	AS-29 (scfm)	9.5	10.0	11.0	8.5	8.0	10.5	8.5	8.0	
	AS-43 (scfm)	10.0	10.0	11.0	9.5	8.5	10.5	8.5	8.5	
	AS-46 (scfm)	20.0	20.0	23.0	19.0	17.0	22.0	17.0	16.5	
	AS-41 (scfm)	11.0	11.0	13.5	11.0	10.0	12.0	10.0	9.5	
	AS-33 (scfm)	16.0	16.5	18.5	15.0	14.5	18.0	14.0	13.5	
	AS-35 (scfm)	12.5	13.0	14.0	12.0	11.0	14.0	11.0	10.5	

PRESSURE GAUGE

LOWER CELL	AS-27 (psi)	12.0	11.5	12.0	11.5	11.0	11.5	11.0	11.0	
	AS-25 (psi)	11.5	11.0	11.5	11.0	11.0	11.0	10.5	10.5	
	AS-17 (psi)	11.5	11.0	11.5	11.0	11.0	11.0	11.0	10.5	
	AS-19 (psi)	13.5	12.5	13.5	13.0	12.5	13.0	12.0	12.0	
	AS-21 (psi)	12.0	11.5	12.0	12.0	11.5	11.5	11.0	11.0	
	AS-29 (psi)	12.5	12.0	12.5	12.5	11.5	12.0	11.5	11.5	
	AS-43 (psi)	11.0	10.5	11.0	11.0	10.5	11.0	10.5	10.5	
	AS-46 (psi)	11.5	12.0	12.5	12.0	12.0	12.0	11.5	11.5	
	AS-41 (psi)	11.0	10.5	11.0	10.5	10.5	10.5	10.5	10.5	
	AS-33 (psi)	11.5	11.0	12.0	11.5	11.0	11.0	10.5	10.5	
	AS-35 (psi)	11.5	11.0	11.5	11.0	11.0	11.0	10.5	10.5	

**MONTHLY DOCUMENTATION SHEET
BUILDING 2
PID MEASUREMENTS**

FID MEASUREMENTS										
DATE	5/19/16	10-21-16	7-22-16	9-20-16	10-28-16	10-28-16	1-24-17	2-22-17	3-23-17	
TIME	0915	0840	0940	1450	1005	0925	07150920	0920	0910	
INITIALS	NP	A.H.	n.t	R.H.	A.H.	A.H.	N.P.	R.H.	A.H.	

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	2-8-17	2-13-17	2-20-17	2-27-17	3-6-17	3-13-17	3-21-17	
TIME	1330	10:57AM	1000	10:57AM	10:36AM	10:22AM	8:32AM	
OBSERVER'S INITIALS	A.H.	RK	A.H.	AL	RK	RL	RK	

SYSTEM LEAKS, EXCESSIVE OR UNFAMILIAR NOISE, MOISTURE, ETC.

Comments and Notes	NA							
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SOIL VAPOR EXTRACTION (SVE) BLOWER B-701

Pre-Filter Vacuum (-wc)	30	28	30	28	28	24	28	
Post-Filter Vacuum (-wc)	36	38	38	38	39	38	40	
Inlet Magnehelic* (in H ₂ O)	0.0	0.0	0.0	0	0	0	0	
Inlet Vacuum (-wc)	31.0	-30.1	30.6	-32.2	-31.3	-32.7	-32.5	

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	4	8.2	4.0	10	8	9	10	
Inlet Temperature (°F)	80	90	105	98	100	70	90	
Outlet Pressure (wc)	10	10	10	8	8	8	8	
Outlet Temperature (°F)	74	74	84	80	82	74	80	
Water Level Sight Glass (in)	0	0	0	0	0	6"	8"	

AIR SPARGE (SPRG) COMPRESSOR C-2201

Upper Oil Sight Glass (half pt.)	OK							
Lower Oil Sight Glass (half pt.)	OK							

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	17.0	19	17.5	18.5	17.5	15.5	19	
Inlet Temperature (°F)	176	212	225	205	214	215	215	
Outlet Pressure (psi)	16.5	21	19.0	20	19	16	19	
Outlet Temperature (°F)	92	105	104	100	105	110	99	

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	10-10-16	10-17-16	10-28-16	11-8-16	11-14-16	11-21-16	11-28-16	1-24-17	1-30-17
TIME	8:52 AM	8:14 AM	0950	7:52 AM	10:24 AM	10:28 AM	8:57 AM	0945	1055
OBSERVER'S INITIALS	RK	RK	PH	RK	RK	RK	RK	N.P	A.H.

SYSTEM LEAKS, EXCESSIVE OR UNFAMILIAR NOISE, MOISTURE, ETC.

Comments and Notes	NA								
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SOIL VAPOR EXTRACTION (SVE) BLOWER B-701

Pre-Filter Vacuum (-wc)	27	25	28	28	28	28	25	30	35
Post-Filter Vacuum (-wc)	32	30	32	32	34	36	35	37	40
Inlet Magnehelic* (in H ₂ O)	0	0	0	0	0	0	0	0.0	0.0
Inlet Vacuum (-wc)	-31.5	-29.4	-31.5	-32.1	-31.8	-31.5	32.6	32.0	37.3

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	8	6	8	6	8	9	8	4.5	378.8
Inlet Temperature (°F)	98	110	100	98	100	70	90	85	80
Outlet Pressure (wc)	10	10	8	8	8	8	8	95	10
Outlet Temperature (°F)	94	92	74	80	82	84	72	70	70
Water Level Sight Glass (in)	Ø	Ø	Ø	10"	22"	14"	12"	Ø	Ø

AIR SPARGE (SPRG) COMPRESSOR C-2201

Upper Oil Sight Glass (half pt.)	OK	—	—	—	OK	OK	OK	ok	OK
Lower Oil Sight Glass (half pt.)	OK								

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	18.5	14.5	17.5	15.5	20	21.5	19	20	20
Inlet Temperature (°F)	165	190	160	174	215	198	205	200	210
Outlet Pressure (psi)	16	16	17.0	15	21.5	21.5	19	22	21
Outlet Temperature (°F)	68	86	70	74	94	78	82	80	100

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	2-20-17	2-27-17	3-6-17	3-13-17	3-21-17			
TIME	0450	10:52AM	10:27AM	10:16 AM	8:26 AM			
OBSERVER'S INITIALS	A.H.	RK	RK	RK	RK			

SYSTEM LEAKS, EXCESSIVE OR UNFAMILIAR NOISE, MOISTURE, ETC.

Comments and Notes	76°F NA	74°F NA	74°F NA	70°F NA	72°F NA			
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SOIL VAPOR EXTRACTION (SVE) BLOWER B-801

Pre-Filter Vacuum (-wc)	32	32	35	38	35			
Post-Filter Vacuum (-wc)	37	38	39	39	40			
Inlet Magnehelic* (in H ₂ O)	0.1	0.1	0.1	0	0.1			
Inlet Vacuum (-wc)	36.1	-37.5	-39.2	-39.9	-39.8			

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	60	60+	59	60+	60+			
Inlet Temperature (°F)	105	100	105	80	98			
Outlet Pressure (wc)	3.0	3	3	3	3			
Outlet Temperature (°F)	86	79	80	70	80			
Water Level Sight Glass (in)	4"	23"	20"	16"	22"			

AIR SPARGE (SPRG) COMPRESSOR C-2301

Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK			
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK			

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	15	14.5	14.5	14	13.5			
Inlet Temperature (°F)	225	220	216	210	224			
Outlet Pressure (psi)	13	14	12.5	13	13			
Outlet Temperature (°F)	116	116	116	115	112			

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	10-28-16	11-8-16	11-14-16	11-21-16	11-28-16	1-24-17	1-30-17	2-8-17	2-13-17
TIME	1005	7:46 AM	10:18 AM	10:22 AM	8:51 AM	07450920	1050	1325	10:58 AM
OBSERVER'S INITIALS	A.H.	RK	ZL	RK	RL	NP	A.H.	A.H.	RK

SYSTEM LEAKS, EXCESSIVE OR UNFAMILIAR NOISE, MOISTURE, ETC.

Comments and Notes		66°F	66°F	48°F	58°F	58°F	620°F	600°F	74°F
	NA	NA	NA	NA	NA	NA	NA	NA	NA

SOIL VAPOR EXTRACTION (SVE) BLOWER B-801

Pre-Filter Vacuum (-wc)	30	-30	30	31	30	30	35	30	30
Post-Filter Vacuum (-wc)	35	-35	35	36	36	35	40	25	35
Inlet Magnehelic* (in H ₂ O)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.0	0.0
Inlet Vacuum (-wc)	33.0	-34.0	-34.8	-31.5	-37.4	-35.1	-40.0	-35.1	38.2

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	60	60+	59	60 +	59	Measure	60+	60+	60+
Inlet Temperature (°F)	100	101	102	60	95	80	85	80	95
Outlet Pressure (wc)	3	2	3	3	3	3.5	3.0	3.0	3.0
Outlet Temperature (°F)	80	82	82	62	72	64	64	74	84
Water Level Sight Glass (in)	16"	12"	10"	23"	22"	0	0	0	24"

AIR SPARGE (SPRG) COMPRESSOR C-2301

Upper Oil Sight Glass (half pt.)	OK								
Lower Oil Sight Glass (half pt.)	OK								

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	16.5	16.5	16.5	17.5	15.5	15.0	17.0	17.0	20
Inlet Temperature (°F)	210	210	215	198	205	180	190	170	210
Outlet Pressure (psi)	15.5	16	15.5	17.5	15.5	13.0	16.0	15.0	15
Outlet Temperature (°F)	100	105	102	84	95	90	100	100	102

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

Appendix D

First Quarter 2017 Groundwater Sampling Data Sheets

February 2017 Groundwater Sampling Checklist

Well ID	Depth to Water	Date of Water Level Reading	Depth of Intake	Sample Date	Total Depth	Notes
RAMW-01	30.39	2-6-17	38.00	2/8/17 0900	—	FBLK02 - 0800
RAMW-02	30.27	1	37.00	2/7/17 1455	—	Collect MS/MSD02-1455
RAMW-03	30.08		38.00	2/7/17 1350	—	HSSER-DUP02 - 000
RAMW-04	29.93		41.00	2/7/17 1220	—	EBLK02 - 1115
RAMW-05	28.82		36.00	2/7/17 1055	—	
RAMW-06	28.85		37.00	2/7/17 0925	—	
RAMW-07	33.34		41.00	2/6/17 1450	—	
RAMW-08	29.48		37.00	2/6/17 1310	—	
GMZ-01	32.82		40.00	2/6/17 1335	—	
GMZ-02	30.39		37.00	2/8/17 1215	—	Collect MS/MSD01 - 1215
GMZ-03	29.78		37.00	2/8/17 1050	—	HSSER-DUP01 - 0000
GMZ-04	28.07		38.00	2/8/17 0830	—	
MW-07FGA	28.11		39.00	2/7/17 1115	—	
MW-203	28.92		40.00	2/7/17 1030	—	
PMW-01	30.49		37.00	2/8/17 1020	—	
PMW-02	30.47		37.00	2/8/17 1030 1145	—	EBLK01 - 1035
SMW-01	30.86		32.00	2/6/17 1445	—	
SMW-02	27.41		32.00	2/7/17 0920	—	
SMW-04	30.05		35.00	2/8/17 1245	—	
SMW-08	30.28		34.00	2/6/17 1140	—	FBLK01 - 1040
SMW-19	29.07		35.00	2/7/17 1305	—	
SMW-20	29.18		33.00	2/8/17 0940	—	
SMW-21	28.68		34.00	2/7/17 1425	—	
BGW-01	28.91		N/A	N/A		Not Sampled
BGW-02	29.38		N/A	N/A		Not Sampled
BGW-03	29.44	↓	N/A	N/A		Not Sampled



Well ID: GMZ-01

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Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/6/2017 Time: Start 1215 (24hr)
Project No: 60532451.4212 Finish 1355
Site Location: Rockford, Illinois
Weather: OVERTCAST - 40°s Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 47.75 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 32.82 Casing type/diameter: 2" PVC Minimum purge volume: 7.3 (gals)
Water column length (ft): 14.93 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	i5F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1235		

(continued on back)

Sample Collector(s):

N.P.ns

Date: 2/6/2017

SAMPLE COLLECTION DATA

Well ID:

GMZ-01

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/8/2017 Time: Start 1110 (24hr)
Project No: 60532451.4212 Finish 1230
Site Location: Rockford, Illinois
Weather: OVERCAST - 20's Collector(s): N. Pins

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.75 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
 Water table depth (ft): 30.39 Casing type/diameter: 2" PVC Minimum purge volume: 7.0 (gals)
 Water column length (ft): 14.36 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	ISF19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1120		

(continued on back)

Sample Collector(s): N. MINS

Date: 2/8/2017

SAMPLE COLLECTION DATA

Well ID:

GMZ-02

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/8/2017 Time: Start 0955 (24hr)
Project No: 60532451.4212 Finish 1110
Site Location: Rockford, Illinois
Weather: OVERCAST - 20°⁵ Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
 Water table depth (ft): 29.78 Casing type/diameter: 2" PVC Minimum purge volume: 7.2 (gals)
 Water column length (ft): 14.82 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	567-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1005		

Sample Collector(s):

N. Pinus

Date: 2/8/2017

(continued on back)

SAMPLE COLLECTION DATA

Well ID:

GMZ-03

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/8/2017 Time: Start 0745 (24hr)
Project No: 60532451.4212 Finish 0845
Site Location: Rockford, Illinois
Weather: OVERCAST - 20°s Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.98 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 28.07 Casing type/diameter: 2" PVC Minimum purge volume: 8.3 (gals)
Water column length (ft): 16.91 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	1SF19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	0800		

(continued on back)

Sample Collector(s):

N. PINS

Date: 2/8/2017

SAMPLE COLLECTION DATA

Well ID:

GMZ-04

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/7/2017 Time: Start 1045 (24hr)
Project No: 60532451.4212 Finish 1140
Site Location: Rockford, Illinois
Weather: OVERCAST - 40°3 - RAIN Collector(s): N. Pines

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.62 Screen interval(ft): 15 Approx. depth of pump intake(ft): 39
Water table depth (ft): 28.11 Casing type/diameter: 2" SS Minimum purge volume: 36.3 (gals)
Water column length (ft): 18.51 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4789
Begin purge at	1055		

Sample Collector(s):

N. Pins

Date: 2/7/2017

(continued on back)

SAMPLE COLLECTION DATA

Well ID: MW-07FGA

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid



Well ID: MW-203

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Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/7/2017 Time: Start 0940 (24hr)
Project No: 60532451.4212 Finish 1045
Site Location: Rockford, Illinois
Weather: OVERCAST - 40°s Collector(s): N. Pins

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 49.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 28.92 Casing type/diameter: 2" SS Minimum purge volume: 10.1 (gals)
Water column length (ft): 20.58 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	ISF19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	
Begin purge at	<u>1000</u>		

Sample Collector(s):

N. Persus

Date:

(continued on
2/7/2017)

(continued on back)

SAMPLE COLLECTION DATA

Well ID:

MW-203

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-8-17 Time: 0920 (24hr)
Project No: 60532451.4212 Start 1030
Site Location: Rockford, Illinois
Weather: Overcast 20-30°F Collector(s): _____

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.28 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.49 Casing type/diameter: 2" PVC Minimum purge volume: 10.80 (gals)
Water column length (ft): 13.79 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	04261-2402
Begin purge at	0925		

(continued on back)

Sample Collector(s):

Allen Belot

Date: 3-8-17

SAMPLE COLLECTION DATA

Well ID:

PMW-01

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-8-17 Time: Start 1035 (24hr)
Project No: 60532451.4212 Finish 1200
Site Location: Rockford, Illinois
Weather: Overcast 30-30°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.00 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.47 Casing type/diameter: 2" PVC Minimum purge volume: 7.10 (gals)
Water column length (ft): 14.53 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429 - 2402
Begin purge at	1050		

~~if Turbid- β , not stable; remove 2-well volumes, sample collected~~

(continued on back)

Sample Collector(s):

all right

Date: 2-8-17

SAMPLE COLLECTION DATA

Well ID:

PMW-02

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VOCs - Volatile organic compounds

G ~ Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-8-17 Time: Start 0800 (24hr)
Project No: 60532451.4212 Finish 0915
Site Location: Rockford, Illinois
Weather: overcast 20-30°F Collector(s): _____

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.99 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 30.39 Casing type/diameter: 2" PVC Minimum purge volume: 7,7 (gals)
Water column length (ft): 15.60 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-2402
Begin purge at	0810		

(continued on back)

Sample Collector(s):

John Held Jr.

Date: 2-8-17

SAMPLE COLLECTION DATA

Well ID: **RAMW-01**

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-7-17 Time: Start 1410 (24hr)
Project No: 60532451.4212 Finish 1515
Site Location: Rockford, Illinois
Weather: overcast 30-40°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.80 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.21 Casing type/diameter: 2" PVC Minimum purge volume: 710 (gals)
Water column length (ft): 14.53 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	155-25
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-2482
Begin purge at	1415		

(continued on back)

Sample Collector(s):

Date: 2-7-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-02

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-7-17 Time: Start 1245 (24hr)
Project No: 60532451.4212 Finish 1405
Site Location: Rockford, Illinois
Weather: overcast 30-40°F Collector(s): A. Hellatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.28 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 30.08 Casing type/diameter: 2" PVC Minimum purge volume: 7.5 (gals)
Water column length (ft): 15.20 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15325
	Lamotte	2020	31741-1713
	Lamotte	Smart 2 Colorimeter	0429-2402
Begin purge at	1250		

\$ Turbidity not detectable, previous 3 well watered, sample collected

(continued on back)

Sample Collector(s):

John Holt

Date: 2-7-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-03

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-7-16 Time: Start 1115 (24hr)
Project No: 60532451.4212 Finish 1240
Site Location: Rockford, Illinois
Weather: overcast 30-40°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.82 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
 Water table depth (ft): 29.93 Casing type/diameter: 2" PVC Minimum purge volume: 7.30 (gals)
 Water column length (ft): 14.89 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15725
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-3402
Begin purge at	1120		

(continued on back)

Sample Collector(s):

all rights

Date: 2-7-17

SAMPLE COLLECTION DATA

Well ID: RAMW-04

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-7-17 Time: Start 0945 (24hr)
Project No: 60532451.4212 Finish 1110
Site Location: Rockford, Illinois
Weather: Overcast 30-40°F Collector(s): R. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 43.81 Screen interval(ft): 15 Approx. depth of pump intake(ft): 36
Water table depth (ft): 28.82 Casing type/diameter: 2" PVC Minimum purge volume: 7.40 (gals)
Water column length (ft): 14.99
(calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15725
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-2402
Begin purge at	0955		

(continued on back)

Sample Collector(s):

Allen Roberts

Date: 2-7-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-05

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid



Well ID: **RAMW-06**

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Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-7-16 Time: Start 0820 (24hr)
Project No: 60532451.4212 Finish 0940
Site Location: Rockford, Illinois
Weather: overcast 30-40°F Collector(s): A. Halltz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.26 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
 Water table depth (ft): 28.85 Casing type/diameter: 2" PVC Minimum purge volume: 7.6 (gals)
 Water column length (ft): 15.41 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0409-2402
Begin purge at	1825		

(continued on back)

Sample Collector(s):

Date: 2-7-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-06

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-10-17 Time: Start 1345 (24hr)
Project No: 60532451.4212 Finish 1510
Site Location: Rockford, Illinois
Weather: Clear - 30-40°F Collector(s): A. Hellatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 48.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
Water-table depth (ft): 33.34 Casing type/diameter: 2" PVC Minimum purge volume: 7.50 (gals)
Water column length (ft): 15.26

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	2174-1713
	Lamotte	Smart 2 Colorimeter	0429-8402
Begin purge at	1350		

* Turbidity not stable, removed 3 ml/ volume, sample collected.

(continued on back)

Sample Collector(s):

Alma Mads

Date: 2-6-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-07

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-6-17 Time: Start 1230 (24hr)
Project No: 60532451.4212 Finish 1330
Site Location: Rockford, Illinois
Weather: Clear 30-40°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.27 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 29.48 Casing type/diameter: 2" PVC Minimum purge volume: 7.30 (gals)
Water column length (ft): 14.79 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15525
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-2402
Begin purge at	1225		

(continued on back)

Sample Collector(s):

Allen Waller

Date: 2-6-17

SAMPLE COLLECTION DATA

Well ID:

RAMW-08

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid



Well ID: **SMW-01**

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Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/6/2017 Time: Start 1355 (24hr)
Project No: 60532451.4212 Finish 1510
Site Location: Rockford, Illinois
Weather: OVERCAST - 40°5 Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.30 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32
Water table depth (ft): 30.86 Casing type/diameter: 2" PVC Minimum purge volume: 4.1 (gals)
Water column length (ft): 8.44 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	ISF19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1410		

(continued on back)

Sample Collector(s): N. Pin

Date: 2/6/2017

SAMPLE COLLECTION DATA

Well ID:

SMW-01

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/7/2017 Time: Start 0815 (24hr)
Project No: 60532451.4212 Finish 0940
Site Location: Rockford, Illinois
Weather: OVERCAST - 40°s Collector(s): N. Pines

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.99 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32
 Water table depth (ft): 27.41 Casing type/diameter: 2" PVC Minimum purge volume: 6.1 (gals)
 Water column length (ft): 12.58

(calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	0830		

(continued on back)

Sample Collector(s):

N. PWS

Date: 2/7/2017

SAMPLE COLLECTION DATA

Well ID:

SMW-02

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2-8-17 Time: Start 1205 (24hr)
Project No: 60532451.4212 Finish 1250
Site Location: Rockford, Illinois
Weather: overcast 20-30°F Collector(s): N. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 42.56 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35
Water table depth (ft): 30.05 Casing type/diameter: 2" PVC Minimum purge volume: 6.2 (gals)
Water column length (ft): 12.51 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15325
	Lamotte	2020	3174-1713
	Lamotte	Smart 2 Colorimeter	0429-2402
Begin purge at	1210		

(continued on back)

Sample Collector(s):

colls. MWS

Date: 2-8-17

SAMPLE COLLECTION DATA

Well ID:

SMW-04

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/6/2017 Time: Start 1035 (24hr)
Project No: 60532451.4212 Finish 1205
Site Location: Rockford, Illinois
Weather: Mostly SUNNY - 30°s Collector(s): N. Pins

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.80 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 30.28 Casing type/diameter: 2" PVC Minimum purge volume: 5.6 (gals)
Water column length (ft): 11.52 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1055		

(continued on back)

Sample Collector(s):

N. Pins

Date: 2/6/2017

SAMPLE COLLECTION DATA

Well ID:

SMW-08

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/7/2017 Time: Start 1205 (24hr)
Project No: 60532451.4212 Finish 1320
Site Location: Rockford, Illinois
Weather: OVERCAST - 40° Collector(s): N. Pins

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.10 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35
 Water table depth (ft): 29.07 Casing type/diameter: 2" SS Minimum purge volume: 5.9 (gals)
 Water column length (ft): 12.03 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1220		

Sample Collector(s):

N. Pines

Date: 2/7/2017

(continued on back)

SAMPLE COLLECTION DATA

Well ID:

SMW-19

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/8/2017 Time: Start 0845 (24hr)
Project No: 60532451.4212 Finish 0955
Site Location: Rockford, Illinois
Weather: OVERCAST - 20° Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 40.07 Screen interval(ft): 15 Approx. depth of pump intake(ft): 33
 Water table depth (ft): 29.18 Casing type/diameter: 2" PVC Minimum purge volume: 5.3 (gals)
 Water column length (ft): 10.89 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15F19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	0855		

(continued on back)

Sample Collector(s):

N. Pins

Date: 2/8/2017

SAMPLE COLLECTION DATA

Well ID: **SMW-20**

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VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid



Well ID: **SMW-21**

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Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 2/7/2017 Time: Start 1320 (24hr)
Project No: 60532451.4212 Finish 1445
Site Location: Rockford, Illinois
Weather: OVERCAST - 40°s Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.42 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
 Water table depth (ft): 28.68 Casing type/diameter: 2" PVC Minimum purge volume: 6.2 (gals)
 Water column length (ft): 12.74 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	ISF19
	Lamotte	2020	507-5210
	Lamotte	Smart 2 Colorimeter	7260-4709
Begin purge at	1335		

Sample Collector(s):

N. Pins

Date:

2/7/2017

(continued on back)

SAMPLE COLLECTION DATA

Well ID:

SMW-21

Page 2 of 2

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2-6-17

Calibration Form

Parameter	Instrument	Manf/Model	Serial No.	Standard	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
				SN/Exp. Date						
pH 4.00	YSI 55600PS	15325	Field	FZ 19-14 8-1D-17	4.00 @ 25C	20.01	3.86	4.00	AH 0458	
pH 7.00				F172-18 6-29-18	7.00 @ 25C	19.12	7.12	7.00	AH 0956	
pH 10.00				F724-01 5-10-17	10.00 @ 25C	18.35	9.74	9.95	AH 1001	
Specific Cond.				F069-16 3-18-18	1409 4.000 us/cm @ 25C D.4	18.42	15.2	1409	DH 0954	
ORP	Zobell	11	LC 37370 7-15-17	220 295 mV @ 15 C BP	15.36	179.2	220.0	220.0	AH 1004	
DO				H2O Saturated Air	100% H2O Sat. Air	15.85	107.0	94.9	AH 0949	
Turbidity	Lamotte	3174 2020	1113		0 NTU	NA	0.00	0.00	AH 0956	
					10 NTU	NA	9.91	10.01	AH 0950	
						NA				

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2/6/2017

Calibration Form

Parameter	Instrument	Standard	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
	Manf/Model	Serial No.	Manf/Model	SN/Exp. Date				
pH 4.00	YSI 556 MPS	1SF19	F-219-14	8/2017	4.00 @ 25C	19.49	3.86	4.00 ② 0958
pH 7.00			F281-07	10/2018	7.00 @ 25C	19.30	7.14	7.00 ② 0955
pH 10.00			F287-06	10/2018	10.00 @ 25C	18.35	9.33	9.94 ② 1001
Specific Cond.			F251-26	9/2018	1449 1000µS/cm @ 25C	18.61	1417	1489 ② 0952
ORP			203EL	7/2017	—mV @ —C	15.10	244.9	220.0 ③ 1005
DO					100% H2O Sat. Air	16.29	111.8	97.5 ② 0950
Turbidity	LAMOTTE 2020 w/e	507' 5210			0 NTU	NA	0.03	0.00 ③ 1007
					10 NTU	NA	10.00	10.00 ③ 1008

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2-7-16

Calibration Form

Parameter	Instrument	Manf/Model	Serial No.	Standard	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 5525	Field	15525	E219-14 8-10-17	4.00 @ 25C	18.69	3.94	4.00	A.H.0751	
pH 7.00				F172-18 6-29-18	7.00 @ 25C	18.88	7.08	7.00	B4074B	
pH 10.00				F224-01 5-10-17	10.00 @ 25C	18.95	9.83	9.97	A/H0753	
Specific Cond.				F069-16 3-10-18	1409 4000 uS/cm @ 25C B.V.	18.79	1370	1409	A/H 045	
ORP	Zobell			LC273101 7-15-17	220 mV @ 15°C	20.91	214.0	220.0	A.H.0756	
DO				H2O Saturated Air	—	21.43	123.2	96.9	B/H 0742	
Turbidity	in.Matt-e	3174	1713	—	0 NTU	NA	0.02	0.00	A/H 0740	
				—	10 NTU	NA	10.05	10.01	B/H 0740	

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2/7/2017

Calibration Form

Parameter	Instrument	Standard	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 nps	15F19	F069 - 20 3/2018	4.00 @ 25C	20.81	3.91	4.00	(M) 0751
pH 7.00			F281 - 07 10/2018	7.00 @ 25C	20.68	7.21	7.00	(P) 0748
pH 10.00			F 287 - 06 10/2017	10.00 @ 25C	20.80	9.59	9.97	(M) 0753
Specific Cond.			F251 - 26 9/2018	1800µS/cm @ 25C 1409	19.81	1390	1409	(P) 0745
ORP			2035ELL 7/2017	220 mV @ 15 C	20.82	210.7	220.7	(M) 0750
DO			H2O Saturated Air	100% H2O Sat. Air	17.44	80.1	96.8	(P) 0742
Turbidity	LAMOTTE 2020 w/e	507' 52.0		0 NTU	NA	0.11	0.00	(M) 0758
				10 NTU	NA	9.92	10.00	(P) 0800

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2-8-17

Calibration Form

Parameter	Instrument	Serial No.	Manf/Model	Standard	Standard Value @ C	Ambient Temp: C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 MPS	15325	Field	E219-14 8-10-17	4.00 @ 25C	16.47	3.88	4.00	BH 0731	
pH 7.00				F172-16 6-29-18	7.00 @ 25C	16.46	7.14	7.00	BH 0729	
pH 10.00				F184-01 5-10-17	10.00 @ 25C	16.46	9.70	9.94	BH 0733	
Specific Cond.				F069-16 3-18-18	469 uscm @ 25C 94	16.59	1923	1409	BH 0720	
ORP				Z08e11 7-15-17	220 mV @ 15 C	18.82	223.2	220.0	BH 0716	
DO				H2O Saturated Air	100% H2O Sat. Air	16.60	112.4	99.9	BH 0724	
LaMotte	3174	1713			0 NTU	NA	0.01	0.00	BH 0720	
Turbidity					10 NTU	NA	10.04	10.01	BH 0720	

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60532451.4212

Date: 2/8/2017

Calibration Form

Parameter	Instrument	Manf/Model	Serial No.	Standard	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 mps	15F19	F069-20	3/2018	4.00 @ 25C	18.81	3.82	4.00	(D) 0732	
pH 7.00		F281-07	10/2018		7.00 @ 25C	18.93	7.27	7.00	(D) 0730	
pH 10.00		F287-06	10/2017		10.00 @ 25C	18.84	9.45	9.97	(D) 0735	
Specific Cond.		F251-26	9/2018		1,000 uS/cm @ 25C	18.96	1352	1409	(D) 0728	
ORP		208E-LU	7/2017	220 mV @ 15 C		18.82	219.8	220.0	(D) 0738	
DO					100% H2O Sat. Air		91.4	97.4	(D) 0725	
Larmott		507-5210		H2O Saturated Air						
Turbidity	2020 w2					0 NTU	NA	0.03	0.00	(D) 0739
						10 NTU	NA	9.94	10.00	(D) 0740

BP = Barometric Pressure (mmHg)



ACCUTEST

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 07832
TEL. 732-329-0200 FAX: 732-329-
www.accutest.com

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes
Company Name AECOM	Project Name: UTAS PLANTS 1/2 FACILITY	Street WINFIELD RD	City ROCKFORD IL	Billing Information (if different from Report to) Company Name SO - Soil	State IL	DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Street Address WINFIELD RD	Zip 60055	Project # 60532451	Street Address ROCKFORD IL	Client Purchase Order # 60532451	City ROCKFORD IL	State IL
City WAVERVILLE IL	E-mail PETER.HOLLATZ@AECOM.COM	Fax # 630.918.9148	Zip 60055	Project Manager PETER HOLLATZ	City ROCKFORD IL	State IL
Project Contact PETER HOLLATZ	Phone # 630.918.9148	Phone # NICK VINS	Phone # ALAN HOLLATZ	Attention: PETER HOLLATZ	Collection	Number of preserved Bottles
SGS Access: Sample #	Field ID / Point of Collection	METHOD/Vial #	Date	Time	Sampled by	
HSSEN - RAYMOND 01 - 020817		2/8/17	0900	AH	6W	3
HSSEN - TRIP 02 - 020617		2/6/17	-	-	6W	2
						Comments / Special Instructions * LIST OF 13 VOCs LEVEL IV QC
						Data Deliverable Information <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> FULL1 (Level 3+4) <input type="checkbox"/> No Reduced <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other <input type="checkbox"/> ND Data of Known Quality Protocol Reporting Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data
						Sample Custody must be documented below each time samples change possession, including courier delivery.
Relinquished by Sampler: ALAN HOLLATZ	Date Time: 2/1/17	Received By: 1400	Received By: 2	Date Time:	Received By:	Received By: 2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Received By: 4	Date Time:	Received By:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp. <input type="checkbox"/>
						Emergency & Rush T/A data available VIA LabLink
						Sample Inventory is verified upon receipt in the Laboratory



CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3
www.accutest.com

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SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3488
www.accutest.com



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2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3480
www.accutest.com

ACCUTEST

FED EX Tracking # 9741 5239
SGS Accutest Job #
SGS Accutest Quote #

PAGE 2 OF 2

Client / Reporting Information		Project Information										Requested Analysis (see TEST CODE sheet)										Matrix Codes	
Company Name	Project Name:																					DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment Oil - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Street Address	Street																					Comments / Special Instructions	
City	City																					*	
State	State																					LAB USE ONLY	
Project Contact		Billing Information (if different from Report to)																					
Peter Houlatz		Company Name																					
Project # 60532451		Street Address																					
Phone # 630.918.9648		Project Purchase Order #																					
Fax #		City										State											
Sample(s) Name(s) Nick Jins		Zip										Attention:											
Phone #																							
Project Manager Peter Houlatz																							
Collection		Number of preserved Bottles																					
SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	ENOCRE	MEOH	NH3	HNO3	HNO2	H2SO4	NaOH	HCl	None							
HSER-EBL401-020817		2 8 17	1035	AH	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-GMZ-03-020817		2 8 17	1050	NP	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-PNW02-020817		2 8 17	1145	AH	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-GMZ-02-020817		2 8 17	1215	NP	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-MSD1-020817		2 8 17	1215	NP	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-MSD01-020817		2 8 17	1215	NP	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-SMV104-020817		2 8 17	1245	AH	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-DUP01-020817		2 8 17	0000	NP	6W	3	X	X	X	X	X	X	X	X	X	X							
HSER-TRP01-020617		2 6 17	-	-	6W	2	X	X	X	X	X	X	X	X	X	X							
Turnaround Time (Business days)		Data Deliverable Information										NYASP Category A										NYASP Category B	
																						<input type="checkbox"/> FULL1 (Level 3+4)	<input type="checkbox"/> State Forms
																						<input type="checkbox"/> NJ Reduced	<input type="checkbox"/> EDD Format
																						<input type="checkbox"/> Commercial "C"	<input type="checkbox"/> Other
																						<input type="checkbox"/> NJ Data of Known Quality Protocol Reporting	
																						<input type="checkbox"/> Commercial "A" = Results Only, Commercial "B" = Results + QC Summary	
																						<input type="checkbox"/> NJ Reduced = Results + QC Summary + Partial Raw data	
Emergency & Rush T/A data available VIA LabLink		Sample Custody must be documented below each time samples change possession, including courier delivery.										Sample Inventory is verified upon receipt in the Laboratory											
Relinquished by Sampler: 1 <u>Nick Jins</u> Date Time: 4/20/17 Received By: 1		Relinquished By: 2										Received By: 2											
Relinquished by Sampler: 3 Date Time: 3 Received By:		Relinquished By: 4										Received By: 4											
Relinquished by Sampler: 5 Date Time: 5 Received By:												Preserved where applicable											
												<input type="checkbox"/> Intact <input type="checkbox"/> Not intact										On Ice	Cooler Temp.

Appendix E

Second Quarter 2017 Progress Report



Submitted to:
UTC Aerospace Systems
Rockford, IL

Submitted by:
AECOM
Warrenville, IL
June 2017

QUARTERLY PROGRESS REPORT – Second Quarter 2017 (March 2017 – May 2017)

UTC Aerospace Systems Plants 1/2 Facility
Southeast Rockford Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417, ILD010219665
AECOM Project No. 60480278

This Quarterly Progress Report has been prepared on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand Corporation or HSC) by AECOM Technical Services, Inc. (AECOM). This report summarizes activities that occurred during the months of March, April and May of the Second Quarter of 2017 at the above-referenced facility.

Progress Report- Reporting Quarters			
Q1	December	January	February
Q2	March	April	May
Q3	June	July	August
Q4	September	October	November

This report is the eighteenth in the series of Quarterly Progress Reports and consistent with United States Environmental Protection Agency (USEPA) approval of combining project reporting documents from a letter dated April 15, 2011. Quarterly Progress Reports are included as attachments to the Groundwater Management Zone (GMZ) Monitoring and System Performances Reports.

This Quarterly Progress Report follows the requirements outlined in Section X of the Consent Decree (CD) and includes the following:

Actions taken during the prior quarter to maintain compliance with the CD include:

- Summaries of sampling results and tests.
- An identification of work plans and other deliverables completed in accordance with the CD.
- Actions scheduled for the next quarter.
- Information on the progress, percentage of completion, delays, and efforts to mitigate delays.
- Modifications to Work Plans and/or schedules.
- Activities undertaken in support of the Community Relations Plan.

Tasks completed during this period to fulfill each of these actions are summarized (by action) below.

Actions Taken During the First Quarter to Achieve Compliance with the Consent Decree

The following actions were taken during March, April and May of the Second Quarter of 2017:

- On March 10, 2017, AECOM submitted to the USEPA the 2016 Annual GMZ Monitoring and System Performance Report.
- Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system air sampling of the SVE system effluent prior to being deactivated (switched to the pulse-off mode). SVE process air effluent sampling was conducted on March 23, 2017.
- Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system air sampling of the SVE system effluent after being activated (switched to the pulse-on mode). SVE process air effluent sampling was conducted on May 15, 2017.

- AECOM completed GMZ and performance well quarterly monitoring (second quarter 2017) well network sampling on May 9 - 12, 2017. The following wells were sampled for volatile organic compounds (VOCs): GMZ wells (which include the Phase 1 AS/SVE performance monitoring network) SMW01, SMW02, SMW04, SMW08, SMW19, SMW20, SMW21, MW07FG, MW203, GMZ01, GMZ02, GMZ03, GMZ04, PMW01 and PMW02; and performance monitoring wells RAMW01 RAMW02, RAMW03, RAMW04, RAMW05, RAMW06, RAMW07, and RAMW08.

Summary of Sampling and Tests

- Three process air samples were collected from the Phase 1 AS/SVE system effluent during the March 23, 2017 and May 15, 2017, sampling events.
- Two process air samples were collected from the Phase 2 AS/SVE system effluent during the March 23, 2017 and May 15, 2017, sampling events.

Work Plans and Other Deliverables Completed In Accordance With the CD

- The *2016 Annual GMZ Monitoring and System Performance Report, Area 9/10 Remedial Action* (March 2017) was submitted in accordance with Section X, paragraph 30, of the CD and consistent with Section V of the Statement of Work (SOW).

Actions Scheduled for Next Quarter

The following actions are scheduled for the next quarter:

- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-on mode (system in run mode) from May 15, 2017, until approximately July 17, 2017.
- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-off mode (system not in operation) from approximately July 17, 2017, to approximately September 15, 2017.
- Completion of the GMZ and performance well third quarter monitoring event in August 2017. The monitoring event will include the GMZ monitoring well network (which includes the Phase 1 AS/SVE performance monitoring network) and the Phase 2 AS/SVE performance monitoring network.

Percentage of Completion/Anticipated Delays

There are 39 specific deliverables or activities required to be completed as part of the CD. Some of these are ongoing activities and others, such as submittal of documents, require approval by the USEPA/Illinois Environmental Protection Agency to fulfill the requirements of the CD. To date, UTAS has completed their current obligations for 28 of the 39 items, or 72 percent of the CD requirements. There are currently no anticipated delays to the schedule.

Modifications to Work Plans/Schedules Proposed

None

Activities Undertaken In Support of Community Relations Plan

No activities are required with regard to the Community Relations Plan at this time.